ADMINISTRATIVE RECORD

BOSSERT MANUFACTURING SITE

UTICA, ONEIDA COUNTY, NY

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DCN: START-02-F-01369
TDD #: 02-97-09-0024

October 1997

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Document #:	Site Code (three letters of site name)-Section, First Page-Section - Last Page **EXAMPLE (BOS 1.1001 - 1.1002)**
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Category:	Document Category/Section of Administrative Record File
Author:	Writer and Affiliation
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ADMINISTRATIVE RECORD FILE
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Document #: BOS 1.4001 - 1.4126
Title: Site Investigation Report and Associated Regulatory Requirements - Bossert Site - Phase I Remediation
Category: Site Identification
Author: O'Brien & Gere Engineers, Inc.
Recipient: New York State Department of Environmental Conservation and the City of Utica
Date: September 1994

Document #: BF 1.4127 - 1.4243
Title: Analysis of Remedial Alternatives - Phase I - Bossert Site
Category: Site Identification
Author: Brien N. Gidlow, P.E., O'Brien & Gere Engineers, Inc.
Recipient: New York State Department of Environmental Conservation and the City of Utica
Date: December 1994

Document #: BOS 2.5001
Title: Action Memorandum
Category: Removal Response
Author: Joseph D. Rotola, On-Scene Coordinator, United States Environmental Protection Agency Region II, Response and Prevention Branch
Recipient: James R. Marshall, Acting Director, United States Environmental Protection Agency Region II, Emergency and Remedial Response Division
Date: 06 November 1986

Document #: BOS 2.5002 - 2.5024
Title: Action Memorandum
Category: Removal Response
Author: Joseph D. Rotola, On-Scene Coordinator, United States Environmental Protection Agency Region II, Response and Prevention Branch
Recipient: Christopher J. Daggett, Regional Administrator, United States Environmental Protection Agency Region II
Date: 04 March 1987

Document #: BOS 2.5025 - 2.5028
Title: Action Memorandum
Category: Removal Response
Author: Joseph D. Harmon, On-Scene Coordinator, United States Environmental Protection Agency Region II, Response and Prevention Branch
Recipient: Christopher J. Daggett, Regional Administrator, United States Environmental Protection Agency Region II
Date: 13 July 1987

Document #: BOS 2.5029 - 2.5032
Title: Action Memorandum
Category: Removal Response
Author: Joseph D. Rotola, On-Scene Coordinator, United States Environmental Protection Agency Region II, Response and Prevention Branch
Recipient: Christopher J. Daggett, Regional Administrator, United States Environmental Protection Agency Region II
Date: 12 August 1987

Document #: BOS 2.5033 - 2.5037
Title: Action Memorandum
Category: Removal Response
Author: Jack D. Harmon, On-Scene Coordinator, United States Environmental Protection Agency Region II, Response and Prevention Branch
Recipient: Christopher J. Daggett, Regional Administrator, United States Environmental Protection Agency Region II
Date: 12 January 1988

Document #: BOS 2.5038 - 2.5064
Title: Action Memorandum
Category: Removal Response
Author: Jack D. Harmon, On-Scene Coordinator, United States Environmental Protection Agency Region II, Removal Action Branch
Recipient: Jeanne M. Fox, Regional Administrator, United States Environmental Protection Agency Region II
Date: 12 January 1988

Document #: BOS 11.2001-11.2002
Title: EPA Regional Guidance Document
Category: Technical Source and Guidance Documents
Author: United States Environmental Protection Agency
Recipient: N/A
Date: N/A

SITE INVESTIGATION REPORT AND ASSOCIATED REGULATORY REQUIREMENTS BOS - 1.4001

Bossert Site
Phase I Remediation
Site Code: 6-33-029
1002 Oswego Street
Utica, New York 13502

New York State EQBA Title 3 Project
NYSDEC Region 6, Oneida County

City of Utica
Utica, New York

September 1994

O'BRIEN & GERE
ENGINEERS, INC.

BOS - 1.4002

0450.046

Draft Site Investigation Report
and Associated Regulatory Requirements

Phase I
Bossert Site

Site Code: 6-33-029
New York State EQBA Title 3 project
NYSDEC Region 6, Oneida County

City of Utica
Utica, New York

July 1994

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1. Introduction

This report is a preliminary regulatory analysis of potential remedial approaches relative to the findings of a site investigation performed at the former Bossert Manufacturing facility (Site code 6-33-029) during December 1993. The conclusions presented will be taken into further consideration during an analysis of alternatives to be performed by O'Brien & Gere Engineers. Limited additional sampling was performed at the Site during 1994 and are currently ongoing.

1.1. Site background

The Bossert facility fabricated metal items from 1896 until the mid 1980's. Until ceasing operations, the Bossert facility utilized PCB oils in electrical transformers and in hydraulic presses used in the manufacturing process. Manufacturing processes, waste disposal practices, and machinery salvage operations performed subsequent to facility closure have reportedly resulted in the spread of PCB residues to structural materials, debris and to presses remaining in the facility. A detailed discussion of the history of the Site is presented in the *Draft Site History - Bossert Site*, O'Brien & Gere Engineers, Inc., January 1993.

The City of Utica (the City) assumed ownership of the Bossert property through tax foreclosure following bankruptcy of the Bossert Corporation in 1987. On December 27, 1989, the City entered into an Administrative Order on Consent (# A6-199-89-4) with the New York State Department of Environmental Conservation (NYSDEC) for the remediation of the Bossert Site under the 1986 EQBA program. The Bossert Site is currently listed as a NYSDEC Class 2 Inactive Hazardous Waste Site in NYSDEC Region 6. Issues of concern at the Site include: asbestos containing material (ACM); mercury residues; underground petroleum storage tank(s) (UST);

and PCB residues in structural materials, debris, ACM and on press surfaces.

Consistent with the Request for Proposals (RFP) published by the City, the scope of the project is defined as the remediation of the structure and interior appurtenances as described above as well as the removal or closure of underground storage tanks (USTs) located on the exterior grounds.

The 1986 New York State Environmental Quality Bond Act (EQBA) provides funds for the remediation of hazardous waste sites qualifying for funding under EQBA criteria. The Site has been designated by the State as an inactive hazardous waste site (Class 2). Because the Site is owned by a municipality, it is eligible for funding under Title 3 of the 1986 EQBA. Funding eligibility was formally established in New York State Assistance Contract #C300241 between the City and NYSDEC in 1991. Although remediation of Site UST(s) is identified in the consent order as part of the scope of work at the Site, remediation of UST(s) is ineligible for reimbursement under Title 3 of the EQBA according to NYSDEC. It should be noted, however, that O'Brien & Gere Engineers has investigated the UST identified on-site and is currently developing design documents for UST removal. After completion of design documents, O'Brien & Gere Engineers will assist the City with contracting for UST removal independent of the EQBA Title 3 program.

1.2. Previous investigations

NYSDEC performed an initial Site inspection including sampling and analysis within the facility on March 21, 1986. The investigation discovered PCBs in oil samples at concentrations of 53 to 91 ppm. In 1986 and 1987, the USEPA Technical Assistance Team (TAT) sampled oils from drums and sumps at the Site and detected PCB concentrations as high as 10,810 ppm. In 1988, O.H. Materials, Inc. (OHM), under contract to the USEPA, performed remedial efforts at the Site including removal of PCB transformers and decontamination of structural surfaces. After performing these efforts, OHM collected and analyzed wipe samples and bulk samples from treated building surfaces. Analytical results indicated that surficial levels of PCBs on many of the interior structural materials exceeded TSCA standards for reuse of the building. Data obtained from previous investigations are described in greater detail in *Draft Site History - Bossert Site* prepared by O'Brien & Gere Engineers, Inc., January 1993.

In September 1993, Petrone & Petrone, P.C. (Petrone & Petrone), under contract to the City, undertook a search for potentially responsible parties (PRPs) associated with the Site. Research conducted prior to and during the PRP search indicated that National Machinery Exchange (NME), Newark, New Jersey may own presses at the Site. NME was contacted by Petrone & Petrone via letter to solicit participation in the investigation and disposition of the presses. NME responded that they do not own presses at the Site. In view of this response, and with concurrence from NYSDEC, the Site investigation and remedial objectives were developed to address the presses consistent with EQBA and other regulatory program requirements irrespective of their ownership.

1.3. Project overview

Investigation and remediation of the Site will consist of three phases. The Phase I Work Plan was prepared in November 1993 and has been approved by NYSDEC. Work Plans for Phases II and III will be prepared and submitted under separate cover. Phase I addresses the non-structural contamination present at the Site (that is, UST(s), debris, asbestos, oil and grease lines, contaminated machinery and mercury residues). The Phase I Work Plan (O'Brien & Gere Engineers, 1993a) describes the proposed methodology for addressing UST(s), debris, asbestos, grease lines, mercury contamination, and machinery decontamination and removal. The two primary components of the Phase I remedial effort are the remediation of the large stamping processes and the remediation of waste materials and debris in Areas 2 and 3. Phase II will involve assessing the nature and extent of hazardous waste remaining on-site. Phase III will be directed at remediating residual hazardous wastes. Such remediation may consist of structural decontamination or demolition, or both. Certain activities such as disposal of non-hazardous waste materials and building demolition may not be covered under the 1986 EQBA Title 3 Program.

In addition to the Work Plan, the following plans have been developed to date in support of Phase I efforts at the Site:

- *Site History* - summary of Site history as it relates to existing Site contamination

- *Conceptual Investigation and Remedial Action Plan* - conceptual summary of project approach

- *Field Sampling Plan* - detailed description of field sampling procedures

- *Quality Assurance Project Plan* - detailed description of quality assurance/quality control protocols adopted for Site sampling and analysis

- *Health and Safety Plan* - description of protocols to be employed at the Site for protection of O'Brien & Gere Engineers personnel (the health and safety)

- *Waste Management Plan* - plan describing methods to be employed for disposing of potentially hazardous wastes generated at the Site

- *Citizen Participation Plan* - description of methods to be employed to solicit citizen participation in the project and for informing concerned citizens of project status.

The above documents as well as the Phase I Work Plan are available for public review at: 1) NYSDEC Region 6 offices, Watertown, NY (by appointment only); 2) Utica City Clerk's office, Utica, New York; and 3) City of Utica Public Library, Utica, NY.

One of the tasks described in the Phase I Work Plan is a field sampling program intended to characterize UST(s), drums, grease line and oil reservoir contents, debris, ACM, and machinery. This report summarizes Phase I sampling efforts and analytical results. A roof sampling effort to evaluate whether ACM or PCBs are present in roof materials was completed in July 1994.

To date the following efforts have been completed at the Site:

- Detailed site survey
- Resecuring and posting of the site perimeter
- Geophysical survey
- Emergency removal of hazardous chemicals at the Site.

2. Objectives of the site investigation

The objectives of the field sampling program were to:

- Characterize the extent of contamination present in porous debris and soil stockpiled in Areas 2 and 3 by matrix so that a removal and disposal or a treatment program can be designed.
- Characterize the extent of surficial contamination to metal debris in Areas 2 and 3 and machinery so that decontamination of these items can be designed and the materials subsequently salvaged (such as through smelting or reuse), if economically feasible.
- Characterize the extent of PCB contamination in ACM so that removal and disposal of ACM in accordance with applicable regulations can be designed.
- Characterize the contents of grease lines and oil reservoirs so that disposition of grease lines and the disposal of grease and hydraulic oil in accordance with applicable regulations can be designed.
- Obtain sufficient data and information regarding the characterization of the Bossert Site to enable the Phase I remediation of the Site to be completed.

3. Scope of the site investigation

The scope of the sampling effort was described in the September 1993 field sampling plan (FSP) for the Site (O'Brien & Gere Engineers, 1993). The sampling design and rationale for the design is contained in the FSP. Sampling efforts conformed to the FSP except in the following cases:

- Conditions encountered in the field dictated alterations to the sampling scope. In such cases, these conditions were communicated to NYSDEC during field sampling to obtain concurrence for deviating from the FSP.

- During pre-sampling Site walkovers performed by Engineers and NYSDEC, NYSDEC identified additional items to be sampled not included in the FSP.

Additional efforts not included in the Phase I Work Plan were undertaken upon receiving prior approval from the City and NYSDEC and are presented throughout this section.

3.1. Wipe sampling (PCBs)

3.1.1. Presses

One wipe sample was collected from each of the twenty-eight presses located in the building to assess the degree to which PCBs are present on the surfaces of the presses. The samples were collected from an area on each press appearing to be representative of the degree to which oily residues were present on the press as a whole. Sample ID numbers correspond to press numbers. Locations of presses, by press number, are shown in Figure 2. Sample locations were photographed prior to sample collection. Photographs of press wipe sampling locations are presented in Attachment 1.

3.1.2. Metal debris

Ten wipe samples were collected from metal debris contained in Areas 2 and 3. Metal items sampled were photographed prior to sample collection. Photographs of metal debris sampled are presented in Attachment 1. Sample locations are presented in Figure 3.

3.1.3. Drums

Wipe samples were collected from the exterior of three drums reportedly containing mercury contaminated waste materials. The samples were analyzed for PCBs. Sample locations are depicted in Figure 4.

3.1.4. Crates

A modification to the FSP adopted during pre-sampling walkovers attended by O'Brien & Gere Engineers and NYSDEC was to collect wipe samples from the metal portions of several of the wood and metal crates located along the exterior of the east wall of Area 3. As a result, three crates were wipe sampled and submitted for laboratory PCB analysis.

3.2. Bulk sampling (PCBs)

3.2.1. Debris and floor sweepings

Samples were collected from one-hundred pieces of debris and floor sweepings (visually estimated at 25% of the waste) contained in Areas 2 and 3. As stated in the FSP, samples were collected from a range of materials representing the various degrees to which debris appeared visually stained with oil. It should be noted that the FSP stated that fifteen samples were to be collected from concrete debris in Areas 2 and 3. However, the field sampling team found no concrete debris available for sampling and these samples were not collected. Debris sampling included collection of samples from dumpsters located in Area 2 suspected to contain high concentrations of PCBs.

Items to be sampled were photographed prior to sample collection. The photographs are included in Attachment 1. It should be noted that one roll of photographs taken during debris sampling could not be developed. Therefore, photographs of samples BD038 through BD077 are not included in Attachment 1. Locations of sample collection are depicted in Figure 5.

3.2.2. Oil reservoirs

According to the FSP, eight samples were to be collected from oil and grease lines and analyzed for PCBs. Because grease lines permitted the collection of a limited quantity of sample, it was decided in the field to submit the sample for TCLP analysis and not PCBs. The method of grease sample collection for TCLP is discussed in Section 3.3.2. Three presses permitted the collection of oil samples. Samples were collected from the same three presses for PCB analysis. Presses from which PCB oil samples were collected are shown in Figure 2.

A sample of surficial grease was collected from press 119 and a composite grease sample was collected from presses 117 and 118.

3.2.3. ACM

The FSP specified the collection of a total of twenty-four ACM samples for PCB analysis. According to the FSP, twelve samples were to have been collected from darkly stained material and twelve from non-stained or lightly stained ACM. However, because segregation for disposal of ACM according to degree of staining is unlikely, and in order to reduce disturbance to ACM, the scope of sampling was modified during field efforts in consultation with NYSDEC. The ACM sampling effort consisted of the collection of twelve samples from various areas throughout the structure. Locations of sample collection are presented in Figure 6.

3.2.4. Crates

One of the modifications to the FSP adopted during pre-sampling walkovers was to collect, and analyze for PCBs, bulk samples from the wood portions of several of the crates located along the exterior of the east wall of Area 3. Thus, wood cores were collected from three of the crates and submitted for laboratory PCB analysis.

3.3. Bulk sampling (TCLP)

3.3.1. Debris and floor sweepings

Thirteen samples were collected from debris and floor sweepings and submitted for TCLP analysis. The samples were collected to assess disposal options for debris located in Areas 2 and 3 in the event that PCB analyses of debris samples indicate that these materials do not qualify as PCB waste.

3.3.2. Grease lines and oil reservoirs

The diameter of grease lines associated with facility machinery (roughly 1/8 in outside diameter) precluded the collection of samples from these lines. A central distribution area for grease was located in the southeast portion of the production area. The pipes comprising the distribution system were dismantled using a hacksaw and one sample of grease was collected for TCLP analysis. Oil samples were collected from the reservoirs of six hydraulic presses and submitted for TCLP analysis. Grease and hydraulic oil sample locations are presented in Figure 2.

3.3.3. Drum contents

The FSP specified the collection of samples for TCLP analysis from each of the 55-gal drums reportedly containing mercury contaminated wastes located in Area 3. However, field conditions allowed the collection of samples from two drums only. The samples were submitted for TCLP analysis. Sample collection locations are presented in Figure 4.

4. Results

Analytical results for samples collected at the Bossert Site are presented by analyte and matrix below.

4.1. Regulatory framework for the disposal of PCBs

PCBs are regulated by 6 NYCRR Parts 370-376 and federal regulations USEPA codified under TSCA 40 CFR Part 761. Results for the press surfaces and for metal debris were compared to these regulations to evaluate their possible significance with respect to ultimate disposition of presses and metal debris in the Bossert facility.

According to state and federal regulations, should the metal stamping presses be disposed of as scrap metal, and should the hydraulic oil contained within that machine contain less than 1000 ppm PCB contaminated hydraulic oil, then the machines may simply be cleaned of gross contamination and shipped off-site for recycling once drained of hydraulic oil. This provision is presented in 6 NYCRR Part 371.4 which states that "Hydraulic machines containing less than 1000 ppm PCB are no longer regulated as PCB listed hazardous waste, provided that all free flowing liquid has been drained from the hydraulic machine. The drained liquid is a listed hazardous waste, as is any solvent for flushing." This regulation is consistent with the corresponding federal guidance contained in 40 CFR Part 761.

For reuse as parts or if the presses are left in place, surface cleaning of the presses to a PCB concentration of 10 ug/100 cm^2 would be required as consistent with the TSCA Spill Cleanup Policy. However, Mr. Greenlaw (USEPA Region II) has expressed reservations about cleaning the presses in place without first dismantling them (personal communication, 7/12/94). The surface concentration of 10 ug/100 cm^2 is presented in 40 CFR Part 761 subpart G, for which there is no equivalent New York State regulation. Further, should metals scrap (primarily 1/4" metal plating) be sent to a scrap dealer for recycling, a level of 10 ug/100 cm^2 would also be consistent with the TSCA PCB Spill Cleanup Policy.

Both TSCA and NYSDEC regulations specify a criteria of 50 ppm for determining whether bulk materials such as oil and debris are classified as PCB waste. The Regional PCB Program Coordinator (USEPA 1993) and NYSDEC have concurred that 50 ppm represents the appropriate regulatory standard for determining whether debris and oils present at the Site will require disposal as PCB waste. In order to compensate for variability in PCB concentrations for items of debris containing PCBs close to 50 ppm and based on discussions with potential disposal facilities, a conservative threshold concentration of 35 ppm has been adopted for determining PCB waste in debris.

PCB concentrations reported by the laboratory were identified as Aroclor 1254, a commercial PCB mixture formerly produced by the Monsanto Corporation. The following sections present the results of on-site PCB sampling of various machinery and media and provide a preliminary evaluation of the disposal approach which may be considered, in light of the above regulatory requirements.

4.1.1. Presses

Detectable levels of PCBs were found in each wipe sample collected from presses at the Site. The results indicate that surficial levels of PCBs on presses at the Site range from 10 to 1800 $\mu g/100\ cm^2$ PCBs. Based on analytical results, surficial PCB levels on presses exceed the TSCA criteria of 10 $\mu g/100\ cm^2$ for unrestricted reuse. A summary of press wipe sample analytical results is presented in Table 1. (The numeric portion of a given press wipe sample designation represents the press number from which that sample was collected.)

4.1.2. Metal debris

Detectable levels of PCBs were detected in nine of ten wipe samples collected from metal debris in Areas 2 and 3. Detected levels ranged from 7 to 160 $\mu g/100\ cm^2$. Nine of the ten samples exceeded the 10

$\mu g/100\ cm^2$ TSCA criteria for unrestricted use. A summary of debris wipe sample analytical results is presented in Table 1.

4.1.3. Drums

The wipe samples collected from the exterior of three drums in Area 2 exhibited PCB levels of 7, 9, and 20 $\mu g/100\ cm^2$ (See Table 1). Sample results indicate that drum exteriors will require surficial cleaning prior to shipment to minimize worker exposure. As discussed in Section 4.2.3, TCLP analysis of drum contents indicate that the drums must be disposed of as a mercury waste under 6 NYCRR Part 371, waste code D009.

4.1.4. Debris and floor sweepings

Concentrations of PCBs were found above detection limits in each debris sample collected in Areas 2 and 3. As discussed in Section 4.1, a threshold value of 35 ppm was selected as a conservative criteria for evaluating which items might be categorized by a disposal facility as PCB waste based on the regulatory criteria of 50 ppm. A summary of the number of samples containing PCBs above and below the threshold of 35 ppm is presented in Table 4-1 below. A complete list of debris sample PCB results is presented in Table 2.

Table 4-1. *Summary of number of debris samples exceeding and below 35 ppm threshold*

Matrix		No. samples < 35 ppm PCB	No. samples > 35 ppm PCB
Wood	Light	9	0
	Medium	11	0
	Dark	4	5
Cardboard	Light	6	1
	Medium	5	0
	Dark	4	0

two of the presses, would be classified as PCB articles (51 ppm and 78 ppm) and three would not (30, 29 and 14 ppm). Further, oil drained from the presses whose PCB concentration is greater than 500 ppm will require incineration. Analytical PCB results for oil samples are summarized in Table 3.

4.1.6. ACM

PCBs were detected in the twelve ACM samples collected at the Site. PCB concentrations in ACM samples averaged approximately 1.3 ppm and ranged from 0.051 to 5.9 ppm. PCB analytical data for ACM samples are presented in Table 4.

4.1.7. Crates

Concentrations of PCBs were detected above quantitation limits in the wood portion of each of the three crates sampled. The detected concentrations ranged from 0.067 to 16 mg/kg, well below the 35 ppm threshold for characterization as a PCB waste. The results of wipe samples collected from the metal portion of three crates ranged from 2 to 30 $\mu g/100\ cm^2$ PCBs. The results are below criteria for disposal as a solid waste and above criteria for unrestricted use.

4.2. TCLP

The following sections present the results of on-site TCLP analysis of various media and provide a preliminary evaluation of the disposal approach which may be considered in light of regulatory requirements.

4.2.1. Debris and floor sweepings

Samples collected from debris and floor sweepings stockpiled in Areas 2 and 3 tested as non-hazardous for volatiles, semi-volatiles, metals, and hazardous waste characteristics according to TCLP analysis. Sample analytical results are presented in Table 6.

4.2.2. Grease lines and oil reservoirs

The grease sample collected from the grease supply room tested as non-hazardous waste according to TCLP. Hydraulic oil samples also tested as non-hazardous according to results of TCLP analysis. TCLP sample results of oil and grease samples are presented in Table 7. Grease collected from the surface of presses would require disposal as hazardous waste based on sample results for BO006. The sample exceeded the TCLP regulatory limit for lead.

4.2.3. Drum contents

Sample results from one of the drums in Area 2 indicate that the drum contents would be classified by NYSDEC as a hazardous waste based on the detected TCLP mercury concentrations (See Table 8).

5. Summary and conclusions

5.1. Summary and conclusions

Based on the results of the Site investigation, which characterized the extent of contamination to non-structural components in the former Bossert facility, a set of preliminary decontamination and disposal alternatives for debris, machinery, ACM and grease lines were generated.

The Site investigation was conducted in accordance with the project Work Plan (O'Brien & Gere Engineers, 1993a) and the Order on Consent A6-0198-89-04 between the City of Utica and NYSDEC dated December 1989. The Site investigation was performed in compliance with cost eligibility requirements established under Title 3 of the 1986 EQBA. The preliminary remedial analysis was performed based on regulatory requirements set forth in 6 NYCRR Parts 370 to 376, and 40 CFR Part 761. Other regulatory considerations, as well as a comprehensive listing of Standards, Criteria and Guidance (SCGs) will be performed as a component of the Feasibility Study of Alternatives.

Results and conclusions of the Site investigation are presented below.

- The presence of PCBs at levels greater than 10 $\mu g/100\ cm^2$ on twenty-seven of twenty-eight presses suggests that surficial PCB levels at a given location on any of the twenty-eight presses could be expected to exceed 10 $\mu g/100\ cm^2$. According to the USEPA, surficial decontamination to a level of 10 $\mu g/100\ cm^2$ is required for unrestricted use or leaving the presses in-place. However, once drained of hydraulic fluid, the presses could be recycled with only gross surface decontamination then disposed of as a solid rather than hazardous waste.

- Analytical results of wipe samples collected from metal debris indicate that a significant fraction of metal debris located in Areas 2 and 3 exceeds 10 $\mu g/100\ cm^2$. Based on these results, surficial decontamination of metal debris will be required for material reclamation or reuse. If metal debris is not decontaminated, it could require disposal in a NYSDEC or TSCA landfill as PCB waste, according to the USEPA (1993) or possibly as a solid waste.

- Wood debris PCB concentrations indicating levels associated with regulated PCB waste are, based on sample results, exclusively made up of heavily oil-stained materials. Therefore, the visual of segregation of wood materials into PCB and non-PCB waste for evaluating the method of disposal appears to present a technically feasible remedial approach. Additional sampling of debris (especially for debris indicating PCB contamination at less than 35 ppm) will likely required be prior to removal and disposal.

- Although only one cardboard sample exhibited PCB concentrations indicative of PCB waste, the elevated concentration was detected in a lightly stained piece of cardboard suggesting that a visual segregation scheme for determining cardboard disposal would not be feasible. Therefore, it is likely that cardboard items contained in Areas 2 and 3 will require disposal as a regulated PCB waste.

- PCB concentrations indicating classification as regulated PCB waste are distributed among light, medium and heavily stained materials. Consequently, floor sweepings present in Areas 2 and 3 will likely require disposal as a regulated PCB waste.

- Concentrations of PCBs detected in the twelve ACM samples collected at the Site indicate that ACM will not require disposal as a regulated PCB waste and may be disposed of in a landfill permitted to accept asbestos.

- Because the contents of one drum in Area 2 indicated hazardous concentrations of mercury, and because the three drums located in Area 2 are labelled as containing mercury waste, these drums should be disposed of as hazardous waste.

- Concentrations of PCBs detected in grease samples removed from the surfaces of presses indicate that if grease is removed from press surfaces for disposal, the grease will require disposal as a regulated PCB waste.

- Sample results indicate that, if removed from the Site, crates located to the east of Area 3 would be permitted to be disposed of as a solid waste but cannot be released for unrestricted use without cleaning. Additional sampling of the crates may be required prior to disposal. It should be noted, however, that data obtained from the December 1993 sampling effort indicate that the wooden portion of crates can be disposed of as non-PCB waste. It is technically feasible to separate the wood portions from the steel portions of the crates; perform a surficial decontamination of the steel component; and salvage the steel. This alternative will be examined in the Analysis of Alternative report.

5.2. Preliminary remedial objectives

General remedial objectives for Phase I of the Bossert Site are to remove and dispose or clean contaminated non-structural components of the Site such that public health and the environment are protected. The development of detailed remedial objectives will be performed in Task 5 of the project. However, it is possible at this stage to present preliminary remedial objectives; the following preliminary remedial objectives were developed, based on information presented in earlier sections of the SIR. These preliminary remedial objectives will be modified or refined as necessary in the analysis of alternatives report prepared in Task 5 of the project.

- Decontamination of metal stamping presses so that: 1) disposition of presses complies with applicable or appropriate federal and state regulations, 2) remediation of the presses is performed at minimum cost to the City and State. Options for disposition of presses include: 1) reuse of the press in whole, 2) reuse of press components, 3) recovery of metal as salvage, 4) disposal as solid waste or 5) cleaning and left on-site.

- Minimize the potential for both future migration and exposure of humans and the environment to contamination associated with stockpiled debris from Areas 2 and 3. Remediation of the stockpiled debris will conform to applicable or appropriate regulations and will be performed with regard to minimizing current and future costs and liability to the City and State. In the event that debris is destined for disposal, it is anticipated that additional sampling will be required by NYSDEC and the disposal facility to be used.

- Protection of human health from potential impacts of Site related asbestos. The friable nature of ACM making up pipe insulation throughout the Site represents a significant health and safety issue for workers that may be involved in Site remediation. Consequently, it is likely that asbestos removal will be required prior to the initiation of other components of Site remediation in order to protect worker health and safety and to prevent the spread of asbestos fibers as a result of disturbance to ACM resulting from remedial activities. Remediation of asbestos will occur in compliance with existing regulations and will be performed with the objective of minimizing remedial costs to the City and State.

- Disposal of grease lines associated with facility machinery in a manner protective of human health and the environment. Remediation will be performed in a manner that minimizes remedial costs to the City and State conforms with applicable or appropriate regulations.

- Minimize, through selective building demolition or bracing, the physical hazards presented by the structure which must be addressed to conduct the Phase I remedial actions safely. Such hazards may take the form of: 1) portions of the facility that are currently dilapidated and, 2) portions of the facility that may be structurally compromised in the future as a result of Phase I remedial activities. Should building demolition prove necessary, a method for building demolition will be selected based on cost-effectiveness. Title 3 Program eligibility for demolition will be determined prior to initiation of demolition activities.

Respectfully submitted,

O'BRIEN & GERE ENGINEERS, INC.

Swiatoslav W. Kaczmar, CIH, Ph.D.
Vice President

Prepared by:

Jeffrey E. Banikowski, CPG
Managing Scientist

Kyle E. Thomas
Project Scientist

References

O'Brien & Gere Engineers, 1993a. Bossert Site Phase I Work Plan, O'Brien & Gere Engineers, Inc.; November 1993.

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NYSDEC, 1994: Telephone conversation between J. Banikowski (O'Brien & Gere Engineers) and Mr. John Miccoli (NYSDEC); July 7, 1994.

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USEPA, 1993: Letter from Ernest A. Regna, USEPA to Kyle Thomas, O'Brien & Gere Engineers, Inc.; August 6, 1993.

USEPA, 1994: Telephone conversation between J. Banikowski and Mr. David Greenlaw (USEPA PCB Program Coordinator); July 12, 1994.

6. Addendum to Site Investigation Report and Associated Regulatory Requirements

This report has been prepared as an addendum to the September 1994 *Site Investigation Report and Associated Regulatory Requirements - Bossert Site*, prepared by O'Brien & Gere Engineers for the City of Utica as part of the Bossert Site NYSDEC Title 3 Phase I site remediation (Site Code: 6-33-029). This report summarizes laboratory analytical data collected as a result of:

- roof sampling efforts carried out in July and August 1994
- a grease line sampling effort performed in August 1994
- debris re-sampling for reactivity performed in November 1994.

6.1. Background

6.1.1. Asbestos and PCBs

During preparation of the Draft Analysis of Alternatives Report (O'Brien & Gere Engineers, 1994), data gaps were identified associated with the following efforts proposed for Phase I at the Site:

- selected demolition in order to access presses or debris, or both

- removal and disposal of grease lines at the Site.

Data gaps identified following initial sampling and associated with these efforts were related to:

- the degree to which asbestos or PCBs, or both, are present in roof materials that may be demolished were collected to provide lateral representation over the extent of roof coverage of anticipated partial building demolition.

Asbestos sample locations were further selected in order to characterize the different types of roof material present (such as equipment flashing, perimeter flashing, built-up roof and vapor barriers). A hammer and decontaminated cold chisel were used to collect twenty-two samples of roughly 1½ by 1½ in. Samples were placed in 2-oz sealable plastic bags and labelled with a unique sample identification number. Distances from sample locations to identifiable features on site survey maps were measured and recorded. The samples were placed in a box and shipped, via overnight courier, to Taylor Environmental Group, Inc. (Taylor Environmental) for analysis. Samples were analyzed using polarized light microscopy (PLM). When appropriate, according to New York State Department of Health (NYSDOH) regulations, negative results obtained using PLM were confirmed using transmission electron microscopy (TEM). Chisels used for sampling were decontaminated between sample collection by scraping gross debris from the tool, then soaking the tool in mineral spirits and wiping with an unused paper towel. The procedure was repeated until no visible contamination or staining was apparent.

PCB roof sample collection was performed using an extension ladder for access to the roof interior. Up to 6 sq in of the surface layer of the decks was removed for PCB analysis using a battery powered drill and a hole saw or using a hammer and chisel. Wood, shavings and sawdust were collected in a dedicated plastic bag and, upon completion of sampling at each location, placed in a glass sample container provided by H2M Labs, Inc. (H2M Labs). Filled glass containers were placed in a cooler with ice, and, at the completion of sampling, shipped via overnight courier to H2M Labs accompanied by completed chain of custody forms. It should be noted that prior to collection of sample BD1-7, the battery for the powered corer began to fail. Consequently, sample BD1-7 was collected from the surficial roof materials as opposed to coring. Consequently, this area was resampled on August 17, 1994, as discussed below.

On August 17, 1994, O'Brien & Gere Engineers and Harza Northeast (formerly Stetson-Harza) performed a sampling effort at the Site to further define PCB residues detected in one roof area as result of the July 1994 sampling effort and to characterize PCB concentrations, if any, in grease contained in grease lines at the Site so that disposal methods for grease lines could be evaluated. Sample locations are presented in Figure 7.

The grease sample was collected from the central grease supply room (Figure 7). The large diameter grease feed lines were disassembled and grease was displaced from the pipe into a glass container using a dedicated wood dowel. The sample container was then placed in a cooler and shipped accompanied by ice and a completed chain-of-custody to H2M Labs for PCB analysis using USEPA Method 8080.

Health and safety and sampling equipment decontamination procedures employed during the sampling effort were again consistent with those specified in the Phase I Work Plan (O'Brien & Gere Engineers, 1993).

On November 28, 1994, fifteen bulk samples were collected from debris located in Areas 2 and 3 for reactivity reanalysis. The samples were collected from wood, dust/soil (floor sweepings), and cardboard. Wood samples were collected using a decontaminated electric corer and decontaminated stainless steel spoon. Dust/soil samples were collected using a decontaminated stainless steel spoon. Sample containers, provided by H2M Labs, were labelled in the field with unique sample identification numbers then placed in a cooler with ice. Upon completion of the sampling effort the cooler was shipped with a completed chain-of-custody form via overnight courier to H2M Labs for analysis. Health and safety and sampling equipment decontamination procedures employed during the reactivity sampling effort were consistent with those specified in the Phase I Work Plan (O'Brien & Gere Engineers, 1993).

Re-analyses for reactive cyanide were performed using a performance-based method, as opposed to the USEPA Method cited in the QAPP, in order to achieve acceptable surrogate recoveries. As justification for the change, H2M Labs cited proceedings from 8th Annual Waste Testing and Quality Assurance Symposium (July 1992) which documented difficulties in attaining acceptable surrogate recoveries using the USEPA approved method and recommended using a performance-based method. The performance-based method used by H2M was reviewed and approved by NYSDEC prior to reanalysis for reactive cyanide.

6.3. Results

6.3.1. Asbestos

Results of asbestos analysis indicate that eight locations contain asbestos at greater than 1% (regulatory threshold for classification as asbestos containing material) of roof material, by weight. Table 6-1, below presents the results of roof asbestos analysis.

Table 6-1. *Roof Asbestos Results*

Sample ID	Total Asbestos Detected (%)	Type of Roof Material	Comment
BR1-1	ND	Rolled roof	Residual sample <1% of original subsample weight. No transmission electron microscopy (TEM) confirmation required.
BR1-2	ND	Rolled roof	Based on confirmation analysis using TEM.
BR1-3	2.8	Built-up roof	
BR1-4	ND	Rolled roof	Based on confirmation analysis using TEM.
BR1-5	4.2	Rolled roof	Based on confirmation analysis using TEM.
BR1-6	<1.0	Rolled roof	Based on confirmation analysis using TEM.
BR1-7	<1.0	Rolled roof	Based on confirmation analysis using TEM.
BR1-8	ND	Rolled roof	Residual sample <1% of original subsample weight. No TEM confirmation required.
BR1-9	ND	Rolled roof	Residual sample <1% of original subsample weight. No TEM confirmation required.

Sample ID	Total Asbestos Detected (%)	Type of Roof Material	Comment
BR1-10	ND	Rolled roof	Residual sample <1% of original subsample weight. No TEM confirmation required.
BR1-11	3.5	Rolled roof	Based on confirmation analysis using TEM.
BR1-12	<1.0	Rolled roof	Based on confirmation analysis using TEM.
BR2-1	<1.0	Perimeter flashing	Based on confirmation analysis using TEM.
BR2-2	4.0	Perimeter flashing	Based on confirmation analysis using TEM.
BR2-3	2.5	Perimeter flashing	
BR2-4	ND	Perimeter flashing	Residual sample <1% of original subsample weight. No TEM confirmation required.
BR2-5	ND	Perimeter flashing	Residual sample <1% of original subsample weight. No TEM confirmation required.
BR2-6	<1.0	Perimeter flashing	Based on confirmation analysis using TEM.
BR3-1	2.2	Roof to wall counter flashing	
BR3-2	4.1	Roof to wall counter flashing	
BR4-1	1.1	Asphalt roof shingle	Based on analysis using TEM.
BR5-1	ND	Tar paper under roof shingle	Based on analysis using TEM.

The western portion of the Press Room (Area 12) contains ACM in roof flashing (BR3-2), main rolled roof (BR1-11), and asphalt roof shingle (BR4-1). ACM was not detected in the three samples collected from the eastern portion of the Press Room (Area 12). ACM was also detected in a sample collected from roof-to-wall counter-flashing from Area 16 and in rolled roof (BR1-5), perimeter flashing (BR2-3 and BR2-2), and built-up roofing (BR1-3) samples collected from Areas 2 and 3.

6.3.2. PCBs

With the exception of sample BD1-7, results for samples collected in July 1994 exhibit PCBs in the low ppm range. Sample BD1-7 (See Figure 7) exhibited a PCB concentration of approximately 70 ppm, but as explained earlier, this sample was not representative of the roof decking at the location it was obtained. The three PCB samples (BD1-11, BD1-12, and BD1-13) collected in August 1994 to further delineate PCB concentrations in the area of sample BD1-7 exhibited PCB concentrations in the low ppm range. Results of PCB roof samples are presented in Table 6-2, below.

Table 6-2. *Bossert Site Roof PCB Results*

Sample ID	Total PCB in ppm (Aroclor 1254)
BD1-1	3.0
BD1-2	6.7
BD1-3	9.5
BD1-4	1.2
BD1-5	9.1
BD1-6	2.5
BD1-7	70.1
BD1-8	0.16
BD1-9	0.14
BD1-10	1.1
BD1-11	11.0
BD1-12	1.3
BD1-13	0.8

The grease sample collected from the central grease supply line indicated PCBs below the quantitation limit of 20 ppm.

6.3.3. Reactivity

Results of reactivity re-analyses indicate the samples are non-reactive for releasable cyanide and sulfide and are not reactive to water.

6.4. Conclusions

6.4.1. Asbestos

Based on sampling results, roof materials in Areas 1, 2, 3, 16 and the western portion of Area 12 contain asbestos. If building demolition is performed in these areas, roof demolition and disposal will be subject to applicable regulations governing asbestos removal and disposal.

6.4.2. PCBs

Analytical results indicate that roof materials in the press room, upon demolition, would permitted to be disposed of as non-PCB waste. Although BD1-7 exhibited PCB concentrations indicative of a PCB waste material (greater than 35 ppm); as stated above, BD1-7 was not collected in a representative manner. Because presses using hydraulic fluid containing PCBs were mostly confined to Area 12, roof PCB concentrations can be expected to be highest in this room. Therefore, it can reasonably be expected that roof materials throughout the facility contain less than 35 ppm PCBs and would not require disposal as PCB waste.

Because PCBs were not detected in grease line contents, grease lines and grease contents will not require disposal as PCB waste.

6.4.3. Reactivity

The results of re-sampling for reactivity, in combination with the TCLP results presented in Section 4.2, indicate that debris located in Areas 2 and 3 is non-hazardous based on federal RCRA regulations. However, as stated in Section 5.1, means for disposal of debris located in Areas 2 and 3 would be classified as TSCA PCB waste based on a 35 ppm threshold. As discussed in Section 5.1, means for disposal of debris in Areas 2 and 3 will be predicated on PCB concentrations.

7. Second addendum to Site Investigation Report and Associated Regulatory Requirements

This report has been prepared as a second addendum to the September 1994 *Site Investigation Report and Associated Regulatory Requirements - Bossert Site*, prepared by O'Brien & Gere Engineers for the City of Utica as part of the Bossert Site NYSDEC Title 3 Phase I site remediation (Site Code: 6-33-029). This report summarizes field and laboratory analytical data collected as a result of PCB and mercury sampling performed in August 1995.

7.1. Background

During the development of Phase I clean-up alternatives and design documents, data gaps were identified with respect to:

- the concentration of PCBs in structural material
- the surficial concentration of PCBs on structural materials and on machinery other than the twenty-eight metal stamping presses.

In order to address these data gaps, a structural PCB sampling effort and a transformer and machinery wipe sampling effort was proposed to the City. On behalf of the City, the State was petitioned for reimbursement for costs associated with the effort as Title 3 eligible. On June 28, 1995, NYSDEC confirmed that the sampling effort represented a Title 3 eligible cost. At NYSDEC's request, sampling of boiler room sump sediments for mercury analysis was added to the scope of the sampling effort.

Table 7-2 presents wipe sampling heights and locations.

Table 7-2. *Bossert Site structural wipe samples*

Sample	Sample height (ft)	Location
B1	8	Area 11
B2	8	Press Room
B4	8	Press Room
B5	8	Press Room
B6	8	Area 3

7.2.3. Mercury

On August 22, 1995, mercury samples were collected from the trench drain and the west sump of the boiler room (see Figure 8). Samples were analyzed using USEPA Method 7471.

7.3. Results

7.3.1. Bulk PCBs

As shown in Table 7-3, PCB results are consistently below 4 ppm. These results are significantly below the 35 ppm conservative threshold for classification as PCB waste (see Section 4, *Site Investigation Report and Associated Regulatory Requirements*).

Table 7-3. *Bossert site - Site Code 633029 structural samples - PCB results (reported as Aroclor 1254)*

Sample	PCB concentration (MG/KG) as determined by field GC	USEPA 8080 confirmation (MG/KG)
BS01	1.54 U	-
BS02	1.54 U	-
BS03	1.54 U	-
BS04	1.49 J	-
BS05	2.94	-

Sample	PCB concentration (MG/KG) as determined by field GC	USEPA 8080 confirmation (MG/KG)
BS06	3.25	–
BS07	1.39 J	–
BS08	1.54 U	–
BS09	2.51	–
BS10	1.63	–
BS11	1.54 U	–
BS12	1.68	–
BS13	3.24	3.30
BS14	1.54 U	–
BS15	1.54 J	–
BS16	0.97 J	–
BS17	0.88 J	0.180
BS18	1.54 U	–
BS19	1.54 U	–

Notes U: Compound was analyzed for but not detected.
J: Indicates an estimated value, less than the reporting limit but greater than zero.

Laboratory confirmation for BS-13 (the sample in which PCBs were detected above the method detection limit for the field GC method) using USEPA Method 8080 shows sufficient agreement to conclude that, based on field GC results, PCB concentrations are significantly below the TSCA criteria of 50 ppm for consideration as a PCB waste for disposal purposes. The criteria for disposal as PCB waste will be provided by the USEPA prior to facility demolition.

7.3.2. Wipe PCB sampling

Results of transformer and machinery wipe sampling are presented in Table 7-4, below.

Table 7-4. *Bossert site - Site Code 633029*
wipe samples - PCB results (reported as Aroclor 1254)

Sample	Source	PCB level ($\mu g/100\ cm^2$)
XM01	Area 12 furnace	68
XM02	Area 12 washing machine	31
XT01	transformer inside north transformer room	2.0 U
XT02	transformer outside north transformer room	4.5
XT03	transformer inside south transformer room	55
XT15	transformer inside south transformer room	10
XM03	Wheelabrator in Area 2	980
XT04	transformer at room off loading dock	2.0 U
B1	east interior wall - Area 11	3.9
B2	east interior wall - Press Room	57
B4	north face of steel column - Press Room	85
B5	west interior wall - Press Room	340
B6	west interior wall - Area 2	83

Notes U: Compound was analyzed for but not detected.

The above wipe sample results indicate that, except for two transformers, TSCA criteria (10 $\mu g/100\ cm^2$) for unrestricted use are exceeded on each item sampled.

7.3.3. Mercury

The sample collected from the boiler room trench line (S01) resulted in a total mercury concentration of 4.8 mg/kg. The mercury result for S02 collected from the west sump was 4.2 mg/kg.

7.4. Conclusions

Based on sample results presented above, and the roof PCB results presented in Section 6 (first addendum to *Site Investigation Report and Associated Regulatory Requirements*), it appears that the structure, if demolished, would generate demolition materials that would not be classified as TSCA PCB waste if disposed, pending approval by the USEPA Region II PCB Coordinator.

Structural wipe samples and conversations with Mr. David Greenlaw (USEPA Regional PCB Coordinator) indicate that, should the building remain standing subsequent to Phase I remediation, interior decontamination of structural surfaces followed by encapsulation could be required in order to de-list the Site and reuse the facility.

Equipment wipe samples indicate that transformer carcasses and miscellaneous machinery at the Site would require surficial decontamination to below 10 $\mu g/100\ cm^2$ prior to reuse or to below 100 $\mu g/100\ cm^2$ prior to metal reclamation. The high level of PCBs present on the Wheelabrator requires that this machine be decontaminated or disposed as a PCB waste in a NYSDEC or TSCA approved landfill. Other machinery may be permitted to be disposed of as solid, non-hazardous waste. Additional confirmation testing during Phase I remedial construction may be required.

Sediments in the boiler room sumps and trench drain may require disposal as hazardous waste based on characteristic toxicity for mercury. Toxicity Characteristic Leachate Procedure (TCLP) analysis for mercury will be required to assess disposal alternatives.

BOS - 1.4042

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION II
EDISON, NEW JERSEY 08837

RECEIVED
AUG 12 1993

August 6, 1993

Kyle F Thomas, Scientist
O'Brien & Gere Engineers, Inc.
P.O. Box 4873
5000 Brittonfield Parkway
Syracuse, New York 13221

Dear Mr. Thomas:

In your letter of February 19, 1993 to Mr. Daniel Kraft you requested that EPA review issues pertaining to the cleanup and disposal of PCB contaminated materials at the Bossert Site in Utica New York. The Bossert Site was the subject of a CERCLA emergency response by USEPA Region II. When the emergency removal action was complete there remained two stockpiles of potentially PCB contaminated materials in addition to potentially contaminated equipment, buildings and appurtenances. The city of Utica, New York now owns the property and your firm is performing an investigation and remedial design to address the remaining contamination on the property. We have reviewed the information you provided and provide the following conclusions:

1. Based on the nature of the materials and the history of the site (specifically USEPA's activities under CERCLA) materials may be segregated for disposal based on their actual PCB concentration. (PCBs may not be diluted by the City of Utica or its agents to avoid a concentration based requirement other than as provided in the PCB regulations for activities such as cleanup of surfaces and decontamination. This is the same restriction as applies to CERCLA activities under the Superfund PCB Policy)

2. Sampling of debris is to determine if "hot spots" with PCB concentrations greater than 50 ppm are in each portion of debris. You have indicated that debris will be sorted by type and visible contamination. Once sorted, the debris will be sampled to characterize it for disposal. The debris should be delineated into batches with at least one sample per batch. The maximum batch size is twenty cubic yards. If any sample from a batch is over 50 ppm PCBs then the batch would be handled as being over 50 ppm PCBs.

Debris with impervious surfaces must be disposed as a PCB waste if it is contaminated with PCBs at more than 100 $\mu g/100\ cm^2$ as measured by standard wipe tests. This type of debris may be decontaminated as an alternative to disposal as a PCB waste.

3. As Mr. Greenlaw of my staff has mentioned, non-PCB disposal facilities may limit the level of PCB contamination they will accept to significantly less then 50 ppm. Also, many disposal facilities (PCB and non-PCB) have their own sampling plan requirements. For these reasons it may be important to have input from the disposal facilities early to avoid conflicts with their criteria. We do not have specific information on these disposal requirements.

4. The proposed cleanup level of 10 ppm PCBs for soils and concrete slab foundations to be left on the site is appropriate based on EPA's requirements.

5. Building interiors should be cleaned up to the standards in the PCB Spill Cleanup Policy (Spill Policy), Subpart G of 40 C.F.R. Part 761. Surface based cleanup criteria may be applied to concrete and other porous materials provided the material is also sampled in some locations, usually where contamination is/was the greatest, to demonstrate that by cleaning the surface the PCB contamination has been substantially addressed. If normal cleanup procedures cannot achieve the standards in the Spill Policy we will be happy to discuss alternatives.

6. Equipment cleaned to 10 $\mu g/100\ cm^2$ is unrestricted by the PCB regulations. Equipment cleaned to 100 $\mu g/100\ cm^2$ may be disposed as a non-PCB waste. Disposed means that this equipment would be smelted, shredded or otherwise destroyed. Disposed does not include reused as parts.

We hope the above discussion address the issues raised in your letter. We will be ready to assist you in clarifying any issue related to the PCB regulations that arises in the course of this remediation. Formal EPA approval is not required to implement this PCB remediation. If you need any further assistance you may call Mr. David Greenlaw at (908) 906-6817

Sincerely,

Ernest A. Regna

Ernest A. Regna, Chief
Pesticides and Toxic Substances Branch

O'BRIEN & GERE ENGINEERS, INC. **MEMORANDUM**

To: File *cc:* Scott Braymer
From: Jeff Banikowski
Re: Phone conversation with Mr. David Greenlaw, U.S.EPA Region 2
File: 450.046
Date: July 18, 1994

On July 12, 1994, this writer held a phone conversation with Mr. Greenlaw, U.S.EPA Region 2, PCB Program Coordinator. The purpose of the phone conversation was to discuss U.S.EPA's position relative to remediation of the Bossert facility. It should be noted that Mr. Greenlaw was familiar with the site and indicated that he had conversed with Mr. Kyle Thomas (O'Brien & Gere Engineers, Inc.) on several occasions. Mr. Greenlaw offered the following information:

- The PCB hydraulic machines contained within the Bossert facility are subject to regulations under 40 CFR Part 761.60, subpart D. These regulations indicate that, if the hydraulic oil contained within the machines is less than 1000 ppm PCBs, then the only requirement for disposal of the machines (i.e. disposal of as a municipal solid waste or salvage) is that the oil be drained from the hydraulic reservoir. In the event that the hydraulic oil contained in the reservoir is greater than 1000 ppm PCBs, the hydraulic machine would require flushing with a solvent prior to disposal. In this case, Mr. Greenlaw noted that it was likely that the solvent would be regulated as a hazardous waste under 40 CFR Part 261 and applicable state regulations. (A copy of 40 CFR Part 761.60, subpart D and its 6 NYCRR counterpart is attached).

- Mr. Greenlaw indicated that, although the regulations would not require exterior cleaning of the machines under the scenario provided above, his agency would not be receptive to removal of the machines without a gross exterior cleaning to remove grease and accumulated oils. He further indicated that no testing of the exterior would be necessary to evaluate the exterior cleanliness of the machines, only visual observations that the machines were (relatively) clean.

- Mr. Greenlaw stated that 40 CFR 1761.60, subpart D requires removal of the machines off-site; it does not authorize the machines to be left in place. Mr. Greenlaw indicated that a satisfactory level of cleanliness for leaving the machine on-site would be 10 ug/100 cm^2, as provided in 40 CFR Part 761 (PCB Spill Clean-up Policy). However, Mr. Greenlaw stated that he had reservations about attempting to clean the metal stamping presses at Bossert to this level without taking them apart to permit a thorough cleaning of hard to reach parts.

- Mr. Greenlaw noted that BIF regulations may affect the selection of smelters who could reclaim the presses and suggested that we contact Mr. John Brogard (U.S.EPA) to discuss specific air discharge regulations governing reclaimation of the presses by smelting.

persons other than EPA may be granted on the record of the hearing by the person chairing it or in writing by the Hearing Chairman.

§ 750.41 Final rule.

(a) As soon as feasible after the deadline for submittal of reply comments, EPA will issue a final rule. EPA will also publish at that time:

(1) A list of all material added to the record (other than public comments and material from the hearing record) which has not previously been listed in a FEDERAL REGISTER document, and

(2) The effective date of the rule.

(b) Pursuant to the delegation of authority made in the Preamble to the Final Regulation for the PCB Manufacturing, Processing, Distribution in Commerce and Use Prohibitions, the Assistant Administrator for Prevention, Pesticides and Toxic Substances will grant or deny petitions under section 6(e)(3)(B) of TSCA submitted pursuant to § 750.31. The Assistant Administrator will act on such petitions subsequent to opportunity for an informal hearing pursuant to this rule.

(c) In determining whether to grant an exemption to the PCB ban, EPA will apply the two standards enunciated in section 6(e)(3)(B) of TSCA.

PART 761—POLYCHLORINATED BIPHENYLS (PCBs) MANUFACTURING, PROCESSING, DISTRIBUTION IN COMMERCE, AND USE PROHIBITIONS

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761.202 EPA identification numbers.
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AUTHORITY: 15 U.S.C. 2605, 2607, 2611, 2614, and 2616.

Subpart A—General

§ 761.1 Applicability.

(a) This part establishes prohibitions of, and requirements for, the manufaccapacitors, and all small PCB capacitors described in paragraph (b)(2)(iv) of this section, shall be placed in one of the Department of Transportation specification containers identified in § 761.65(c)(6) or in containers that comply with 49 CFR 178.118 (specification 17H containers). Large PCB capacitors which are too big to fit inside one of these containers shall be placed in a container with strength and durability equivalent to the DOT specification containers. In all cases, interstitial space in the container shall be filled with sufficient absorbent material (such as sawdust or soil) to absorb any liquid PCBs remaining in the capacitors.

(3) *PCB hydraulic machines.* PCB hydraulic machines containing PCBs at concentrations of 50 ppm or greater such as die casting machines may be disposed of as municipal solid waste or salvage provided that the machines are drained of all free-flowing liquid and the liquid is disposed of in accordance with the provisions of paragraph (a) of this section. If the PCB liquid contains 1000 ppm PCB or greater, then the hydraulic machine must be flushed prior to disposal with a solvent containing less than 50 ppm PCB under transformer solvents at paragraph (b)(1)(i)(B) of this section and the solvent disposed of in accordance with paragraph (a) of this section.

(4) *PCB-Contaminated Electrical Equipment.* All PCB-Contaminated Electrical Equipment except capacitors shall be disposed of by draining all free flowing liquid from the electrical equipment and disposing of the liquid in accordance with paragraph (a)(2) or (3) of this section. The disposal of the drained electrical equipment is not regulated by this rule. Capacitors that contain between 50 and 500 ppm PCBs shall be disposed of in an incinerator that complies with § 761.70 or in a chemical waste landfill that complies with § 761.75.

(5) *Other PCB Articles.* (i) PCB articles with concentrations at 500 ppm or greater must be disposed of:

(A) In an incinerator that complies with § 761.70: or

(B) In a chemical waste landfill that complies with § 761.75, provided that all free-flowing liquid PCBs have been thoroughly drained from any articles before the articles are placed in the chemical waste landfill and that the drained liquids are disposed of in an incinerator that complies with § 761.70.

(ii) PCB Articles with a PCB concentration between 50 and 500 ppm must be disposed of by draining all free flowing liquid from the article and disposing of the liquid in accordance with paragraph (a)(2) or (3) of this section. The disposal of the drained article is not regulated by this rule.

(6) *Storage of PCB Articles.* Except for a PCB Article described in paragraph (b)(2)(ii) of this section and hydraulic machines that comply with the municipal solid waste disposal provisions described in paragraph (b)(3) of this section, any PCB Article, with PCB concentrations at 50 ppm or greater, shall be stored in accordance with § 761.65 prior to disposal.

(c) *PCB Containers.* (1) Unless decontaminated in compliance with § 761.79 or as provided in paragraph (c)(2) of this section, a PCB container with PCB concentrations at 500 ppm or greater shall be disposed of:

(i) In an incinerator which complies with § 761.70, or

(ii) In a chemical waste landfill that complies with § 761.75; provided that if there are PCBs in a liquid state, the PCB Container shall first be drained and the PCB liquid disposed of in accordance with paragraph (a) of this section.

(2) Any PCB Container used to contain only PCBs at a concentration less than 500 ppm shall be disposed of as municipal solid wastes; provided that if the PCBs are in a liquid state, the PCB Container shall first be drained and the PCB liquid shall be disposed of in accordance with paragraph (a) of this section.

(3) Prior to disposal, a PCB container with PCB concentrations at 50 ppm or greater shall be stored in a facility which complies with § 761.65.

(d) *Spills.* (1) Spills and other uncontrolled discharges of PCBs at concentrations of 50 ppm or greater constitute the disposal of PCBs.

(2) PCBs resulting from the clean-up and removal of spills, leaks, or other uncontrolled discharges, must be

capacitors, and all small PCB capacitors described in paragraph (b)(2)(iv) of this section, shall be placed in one of the Department of Transportation specification containers identified in § 761.65(c)(6) or in containers that comply with 49 CFR 178.118 (specification 17H containers). Large PCB capacitors which are too big to fit inside one of these containers shall be placed in a container with strength and durability equivalent to the DOT specification containers. In all cases, interstitial space in the container shall be filled with sufficient absorbent material (such as sawdust or soil) to absorb any liquid PCBs remaining in the capacitors.

(3) *PCB hydraulic machines.* PCB hydraulic machines containing PCBs at concentrations of 50 ppm or greater such as die casting machines may be disposed of as municipal solid waste or salvage provided that the machines are drained of all free-flowing liquid and the liquid is disposed of in accordance with the provisions of paragraph (a) of this section. If the PCB liquid contains 1000 ppm PCB or greater, then the hydraulic machine must be flushed prior to disposal with a solvent containing less than 50 ppm PCB under transformer solvents at paragraph (b)(1)(i)(B) of this section and the solvent disposed of in accordance with paragraph (a) of this section.

(4) *PCB-Contaminated Electrical Equipment.* All PCB-Contaminated Electrical Equipment except capacitors shall be disposed of by draining all free flowing liquid from the electrical equipment and disposing of the liquid in accordance with paragraph (a)(2) or (3) of this section. The disposal of the drained electrical equipment is not regulated by this rule. Capacitors that contain between 50 and 500 ppm PCBs shall be disposed of in an incinerator that complies with § 761.70 or in a chemical waste landfill that complies with § 761.75.

(5) *Other PCB Articles.* (i) PCB articles with concentrations at 500 ppm or greater must be disposed of:

(A) In an incinerator that complies with § 761.70; or

(B) In a chemical waste landfill that complies with § 761.75, provided that all free-flowing liquid PCBs have been thoroughly drained from any articles before the articles are placed in the chemical waste landfill and that the drained liquids are disposed of in an incinerator that complies with § 761.70.

(ii) PCB Articles with a PCB concentration between 50 and 500 ppm must be disposed of by draining all free flowing liquid from the article and disposing of the liquid in accordance with paragraph (a)(2) or (3) of this section. The disposal of the drained article is not regulated by this rule.

(6) *Storage of PCB Articles.* Except for a PCB Article described in paragraph (b)(2)(ii) of this section and hydraulic machines that comply with the municipal solid waste disposal provisions described in paragraph (b)(3) of this section, any PCB Article, with PCB concentrations at 50 ppm or greater, shall be stored in accordance with § 761.65 prior to disposal.

(c) *PCB Containers.* (1) Unless decontaminated in compliance with § 761.79 or as provided in paragraph (c)(2) of this section, a PCB container with PCB concentrations at 500 ppm or greater shall be disposed of:

(i) In an incinerator which complies with § 761.70, or

(ii) In a chemical waste landfill that complies with § 761.75; provided that if there are PCBs in a liquid state, the PCB Container shall first be drained and the PCB liquid disposed of in accordance with paragraph (a) of this section.

(2) Any PCB Container used to contain only PCBs at a concentration less than 500 ppm shall be disposed of as municipal solid wastes; provided that if the PCBs are in a liquid state, the PCB Container shall first be drained and the PCB liquid shall be disposed of in accordance with paragraph (a) of this section.

(3) Prior to disposal, a PCB container with PCB concentrations at 50 ppm or greater shall be stored in a facility which complies with § 761.65.

(d) *Spills.* (1) Spills and other uncontrolled discharges of PCBs at concentrations of 50 ppm or greater constitute the disposal of PCBs.

(2) PCBs resulting from the clean-up and removal of spills, leaks, or other uncontrolled discharges, must be

BOS - 1.4048

DEC hazardous waste number	Waste
B004	PCB articles containing 50 ppm or greater of PCB's, but less than 500 ppm PCB's, excluding small capacitors. This includes oil-filled electrical equipment whose PCB concentration is unknown, except for circuit breakers, reclosers and cable.
B005	PCB articles, other than transformers, that contain 500 ppm or greater of PCB's, excluding small capacitors.
B006	PCB transformers. *PCB transformers* means any transformer that contains 500 ppm PCB or greater.
B007	Other PCB wastes, including contaminated soil, solids, sludges, clothing, rags and dredge material.

Note: PCB's are also regulated by 40 CFR part 761. A person must comply with both this Part and 40 CFR part 761 (see section 370.1[e] of this Title).

(2) Drained PCB articles. (i) Except as provided in subparagraphs (ii) and (iii) of this paragraph, drained PCB articles containing at least 50 ppm PCB's are regulated as hazardous waste.

(ii) PCB articles, except capacitors, that contain between 50 and 500 ppm PCB, are no longer regulated as PCB listed hazardous waste provided that all free-flowing liquid has been drained from the article. The drained liquid is a listed hazardous waste, as is any solvent used for flushing.

(iii) (*a*) Hydraulic machines containing less than 1,000 ppm PCB are no longer regulated as PCB listed hazardous waste, provided that all free-flowing liquid has been drained from the hydraulic machine. The drained liquid is a listed hazardous waste, as is any solvent used for flushing.

(*b*) Hydraulic machines containing 1,000 ppm PCB or greater are no longer regulated as PCB listed hazardous waste, provided that all free-flowing liquid has been drained from the hydraulic machine, and the drained hydraulic machine is flushed with a solvent in which PCB's are readily soluble. The solvent to be used for flushing must contain less than 50 ppm PCB. The drained liquid and the solvent used for flushing are listed hazardous wastes.

(3) Definitions. (i) *PCB article* means any manufactured article, other than a PCB container, that contains PCB's and whose surface(s) has been in direct contact with PCB's. *PCB article* includes capacitors, transformers, electric motors, circuit breakers, reclosers, voltage regulators, switches (including sectionalizers and motor starters), electromagnets, cable, hydraulic machines, pumps, pipes, and any other manufactured item which is formed to a specific shape or design during manufacture, has end use function(s) dependent in whole or in part upon its shape or design during end use, and has either no change of chemical composition during its end use or only those changes of composition which have no commercial purpose separate from that of the PCB article.

(ii) *Small capacitor* means a capacitor which contains less than 1.36 kg (3 lb.) of dielectric fluid. The following assumptions may be used if the actual weight of the dielectric fluid is unknown. A capacitor whose total volume is less than 1,639 cubic centimeters (100 cubic inches) may be considered to contain less than 1.36 kg (3 lb.) of dielectric fluid and a capacitor whose total volume is more than 3,278 cubic centimeters (200 cubic inches) must be considered to contain more than 1.36 kg (3 lb.) of dielectric fluid. A capacitor whose volume is between 1,639 and 3,278 cubic

O'BRIEN & GERE ENGINEERS, INC. **MEMORANDUM**

To: File
From: Jeff Banikowski
Re: Phone conversations with Bill Yeomans and John Miccoli, NYSDEC RCRA Program
File: 450.046
Date: July 18, 1994

cc: Scott Braymer
Kyle Thomas

On Monday, July 11, 1994, this writer and Scott Braymer held a phone conversation with Bill Yeomans and John Miccoli, NYSDEC. The purpose of the phone conference (initiated by this writer at the direction of Ray Lupe, NYSDEC Project Supervisor) was to obtain information from NYSDEC relative to the application of 6 NYCRR Parts 370-376 to Phase 1 of the Bossert Site clean-up. During the conversation, Mr. Yeomans and Mr. Miccoli offered the following information:

- The PCB waste streams at Bossert would be classified as either B002 waste or B007 waste. Specifically, the debris in areas 2 and 3 is a B007 waste, while hydraulic oil exceeding 50 ppm PCBs is a B002 waste for disposal purposes.

- Mr. Miccoli emphasized the notification, certification requirements needed to comply with the treatment, shipment, and disposal of PCBs as a state listed hazardous waste. Mr. Miccoli indicated that the City would act as generator of the material and that the waste would be manifested under 6 NYCRR 372.2.

- Mr. Miccoli indicated that U.S.EPA 40 CFR Part 761 carries the burden for waste exiting regulatory requirements in that the U.S.EPA would need to provide an opinion as to remedial alternatives at the Bossert Site for disposal of PCB containing waste materials. He indicated that if TSCA agrees with the NYSDEC as to the disposal of the material in question, that the regulations would be sufficiently satisfied.

- Mr. Miccoli indicated that he would like his office to receive a copy of a summary report providing our recommended approach for Phase 1 remediation at Bossert prior to finalization of the FS. He indicated that correspondence should be sent to Larry Naddler, Section Chief.

- Mr. Miccoli indicated that, in the event that the metal stamping presses were decontaminated using a solvent or detergent wash, that the filter used in cleaning the waste would likely concentrate PCBs to the extent that they would be regulated as a hazardous waste.

Both Mr. Yeomans and Mr. Miccoli indicated that they would be receptive to further conversations if the need arose during development of the FS. Each individual was quite helpful in explaining NYSDEC's position relative to PCB waste streams.

List of abbreviations

ACM	asbestos containing material
ARAR	applicable or relevant and appropriate requirement
ASP	Analytical Services Protocol
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CFR	Code of Federal Regulations
CIRAP	conceptual investigation and remedial action plan
CPP	citizen participation plan
cm	centimeter
ECL	Environmental Conservation Law of the State of New York Article 27, Title 13 entitled "Historic Hazardous Waste Disposal Sites"
EQBA	Environmental Quality Bond Act
FSP	field sampling plan
HASP	health and safety plan
gal	gallon
kg	kilogram
l	liter
mg	milligram
MS	matrix spike
MSD	matrix spike duplicate
NCP	National Oil & Hazardous Substances Pollution Contingency Plan (40 CFR 300)
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
OHM	O.H. Materials Corp.
PCB	polychlorinated biphenyl
ppb	parts per billion
ppm	parts per million
PRP	potentially responsible party
QA/QC	quality assurance and quality control
QAPP	quality assurance project plan
RFP	request for proposals
SCP	spill cleanup plan
SCG	standards, criteria or guidance documents

SIR	site investigation report
TAT	Technical Assistance Team
TCLP	Toxicity Characteristic Leachate Procedure
TPH	total petroleum hydrocarbons
TSCA	Toxic Substances Control Act
ug	microgram
USEPA	United Stated Environmental Protection Agency
UST	underground storage tank
VOC	volatile organic compound
WMP	waste management plan

TABLE 1
BOSSERT SITE
SITE NO. 633029
WIPE SAMPLES
PCBs (reported as Aroclor 1254)

PRESSES

SAMPLE #	PCBs	Q
XP090	140	
XP101	30	U
XP102	250	
XP103	140	
XP106	30	U
XP107	60	U
XP108	50	U
XP112	430	
XP117	120	J
XP118	20	U
XP119	40	U
XP120	10	U
XP121	100	
XP123	680	
XP124	200	
XP128	420	
XP133	750	
XP135	20	U
XP137	870	
XP138	1800	
XP170	70	
XP200	90	
XP201	280	
XP202	330	
XP204	260	
XP205	1000	
XP206	30	U
XP513	410	

DEBRIS

SAMPLE #	PCBs	Q
XD001	140	
XD002	110	
XD003	40	J
XD004	20	
XD005	160	
XD006	60	J
XD007	130	
XD008	2	
XD009	40	

DRUMS

SAMPLE #	PCBs	Q
XB001	9	
XB002	20	
XB003	7	

CRATES

SAMPLE #	PCBs	Q
XC001	30	J
XC002	2	U
XC003	2	U

Units = $\mu g/100\ cm2$
J = Estimated value
U = Compound analyzed for but not detected.
As stated in Section 3.1, press numbers correspond to numeric portion of wipe sample designation.
As stated in Section 3.1, debris samples were collected from various articles of metal debris.
As stated in Section 3.1, crate samples were collected from the metal portion of large steel and wood transport crates.
As stated in Section 3.1, drum samples were collected from the exterior of three 55-gal drums located in Area 3.
Samples were collected from December 8, 1993 until December 14, 1993 by Kyle Thomas (O'Brien & Gere Engineers), and Patricia Rosato and Jeff Bullis (Stetson-Harza).
As stated in the QAPP for the project, samples were analyzed using USEPA Method 8080 by H2M Labs, Inc. Data were validated by Data Validation Services, North Creek, New York.

TABLE 2
BOSSERT SITE
SITE NO. 633029
DEBRIS SAMPLES
PCBs (Reported as Aroclor 1254)

SAMPLE #	PCBs	Q*	M*
BD001	62000		W
BD002	53	J	W
BD003	1.1	J	W
BD004	10	J	W
BD005	1.7	J	W
BD006	0.98	J	W
BD007	2.9		W
BD008	2.4		W
BD009	11		W
BD010	7.1		W
BD011	0.24	U	W
BD012	1	J	W
BD013	590		W
BD014	110		W
BD015	1.7	J	W
BD016	0.25	U	W
BD017	21	J	W
BD018	170		W
BD019	0.32	U	W
BD020	2.6		W
BD021	6.3		C
BD022	28		C
BD023	7.5		C
BD024	6.3	J	C
BD025	6.9		C
BD026	0.75	U	C
BD027	7.1		C
BD028	5.6		C
BD029	0.67	U	C
BD030	1.2		C
BD031	11		C
BD032	6.3	J	C
BD033	4.9	J	C
BD034	17		C
BD035	11		C
BD036	0.49	U	W

SAMPLE #	PCBs	Q*	M*
BD037	1.9	J	W
BD038	0.26	U	W
BD039	5.4		W
BD040	0.33	U	W
BD041	0.29		W
BD042	0.063		W
BD043	0.16		W
BD044	0.41		W
BD045	17		W
BD046	130		S
BD047	4.5		S
BD048	200	J	S
BD049	120		S
BD050	120		S
BD051	74		S
BD052	34	J	S
BD053	200		S
BD054	71		S
BD055	170		S
BD056	79		S
BD057	63	J	S
BD058	74		S
BD059	27		S
BD060	52		S
BD061	18		S
BD062	17		S
BD063	11		S
BD064	47	J	S
BD065	160		S
BD066	15		S
BD067	84		S
BD068	7.4		S
BD069	4	J	S
BD070	31		S
BD071	3.7		S
BD072	370		S

SAMPLE #	PCBs	Q*	M*
BD073	78		S
BD074	70	J	S
BD075	37		S
BD076	32		S
BD077	49		S
BD078	1.2		S
BD079	1.7		S
BD080	46		S
BD081	3.8		S
BD082	39	J	S
BD083	710		S
BD084	22		S
BD085	5500		S
BD086	410		S
BD087	160		S
BD088	1.2	J	S
BD089	0.23		S
BD090	9		S
BD091	0.12		S
BD092	190		S
BD093	17	J	S
BD094	10		S
BD095	16	J	S
BD096	26		S
BD097	9.9		S
BD098	11		S
BD099	58		S
BD100	39		S
BD101	13	J	S
BD102	29		S
BD103	45		S
BD104	43		S
BD105	11		S
BD106	220	J	S
BD107	8.8		W
BD108	2.9	J	W

UNITS = mg/Kg

* Qualifier:
- J = Estimated
- U = Not detected

** Matrix:
- W = Wood
- S = Sweepings
- C = Cardboard

As stated in Section 3.2, debris samples were collected from various articles of wood, cardboard and floor sweepings in Areas 2 and 3.

Samples were collected from December 7, 1993 until December 15, 1993 by Kyle Thomas (O'Brien & Gere Engineers), and Patricia Rosato and Jeff Bullis (Stetson-Harza).

As stated in the QAPP for the project, samples were analyzed using USEPA Method 8080 by H2M Labs, Inc. Data were validated by Data Validation Services, North Creek, New York.

TABLE 3
BOSSERT SITE
SITE NO. 633029
OIL SAMPLES
PCB (reported as Aroclor 1254)

SAMPLE #	PCBs	Q
BO002	51	J
BO003	30	
BO004	29	
BO005	14	
BO006	78	

TABLE 4
BOSSERT SITE
SITE NO. 633029
ASBESTOS SAMPLES
PCB (reported as Arcclor 1254)

SAMPLE #	PCBs	Q
BA001	0.095	U
BA002	0.051	U
BA003	0.21	U
BA004	1.3	
BA005	0.7	
BA006	1	J
BA007	0.26	
BA008	5.9	
BA009	0.8	
BA010	5.1	
BA011	0.24	
BA012	0.32	

TABLE 5
BOSSERT SITE
SITE NO. 633029
CRATE SAMPLES
PCBs (reported as Aroclor 1254)

SAMPLE #	PCBs	Q
BC001	9.9	
BC002	0.067	
BC003	16	

Units = mg/kg
J = Indicates an estimated value.
U = Compound was analyzed for but not detected.
As stated in Section 3.2, oil samples were collected from the reservoirs of three hydraulic presses.
As stated in Section 3.2, ACM samples were collected from twelve lengths of asbestos wrapped piping located in various places in the facility.
As stated in Section 3.2, crate samples were collected from the wood portion of large steel and wood transport crates.
Samples were collected from December 8, 1993 until December 14, 1993 by Kyle Thomas (O'Brien & Gere Engineers), and Patricia Rosato and Jeff Bullis (Stetson-Harza).
As stated in the QAPP for the project, samples were analyzed using USEPA Method 8080 by H2M Labs, Inc. Data were validated by Data Validation Services, North Creek, New York.

TABLE 6a
BOSSERT SITE
SITE NO. 633029
DEBRIS SAMPLES
TCLP VOLATILES

ANALYTE	REG. LIMIT	BD-047		BD-051		BD-063		BD-064		BD-069		BD-076		BD-084		BD-090		BD-097		BD-106		BD-123		BD-130	
VINYL CHLORIDE	200	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
1,1-DICHLOROETHENE	500	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
CHLOROFORM	6000	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
1,2-DICHLOROETHANE	500	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
2-BUTANONE	200000	10	J	3	J	10	J	10	J	10	J	10	J	9	J	10	J	10	J	10	J	10	J	10	J
CARBON TETRACHLORI	500	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
TRICHLORETHENE	500	10	U	10	U	10	U	10	U	10	U	10	U	10	U	2	J	10	U	10	U	10	U	10	U
BENZENE	500	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
TETRACHLOROETHENE	700	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
CHLOROBENZENE	100000	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U

ANALYTE	REG. LIMIT	BD-131		BD-132		BD-133		BD-134		BD-201		BD-202		BD-203	
VINYL CHLORIDE	200	10	U	10	U	10	U	10	U	10	U	10	U	10	U
1,1-DICHLOROETHENE	500	10	U	10	U	2	J	10	U	10	U	10	U	10	U
CHLOROFORM	6000	10	U	10	U	10	U	10	U	10	U	10	U	10	U
1,2-DICHLOROETHANE	500	10	U	10	U	10	U	10	U	10	U	10	U	10	U
2-BUTANONE	200000	10	J	10	J	10	J	10	J	2	J	10	J	10	J
CARBON TETRACHLORI	500	10	U	10	U	10	U	10	U	10	U	10	U	10	U
TRICHLORETHENE	500	10	U	10	U	17		10	U	10	U	10	U	10	U
BENZENE	500	10	U	10	U	10	U	10	U	10	U	10	U	10	U
TETRACHLOROETHENE	700	10	U	10	U	10	U	10	U	10	U	10	U	10	U
CHLOROBENZENE	100000	10	U	10	U	10	U	10	U	10	U	10	U	10	U

U = Indicates that the compound was analyzed for but not detected.
J = Indicates an estimated value.
Units = μg/l
REG. LIMIT - Regulatory level obtained from 40 CFR Part 261.30.
As stated in Section 4.2, TCLP regulatory limits were not exceeded for volatile organics on the TCLP list.
Samples were collected from December 8, 1993 until December 14, 1993 by Kyle Thomas (O'Brien & Gere Engineers) and Patricia Rosato and Jeff Bullis (Stetson-Harza).
As stated in the QAPP for the project, samples were analyzed by H2M Labs, Inc. Data were validated by Data Validation Services, North Creek, New York.

TABLE 6b
BOSSERT SITE
SITE NO. 633029
DEBRIS SAMPLES
TCLP SEMIVOLATILES

ANALYTE	REG. LIMIT	BD-047		BD-051		BD-063		BD-064		BD-069		BD-076		BD-084		BD-090		BD-097		BD-106		BD-123		BD-130	
1,4-DICHLOROBENZENE	7500	11	U	11	U	11	U	11	U	11	U	11	U	11	U	11	U	10	U	10	U	10	U	100	U
2-METHYLPHENOL	200000	11	U	11	U	11	U	11	U	11	U	11	U	11	U	11	U	10	U	10	U	10	U	100	U
HEXACHLOROETHANE	3000	11	U	11	U	11	U	11	U	11	U	11	U	11	U	11	U	10	U	10	U	10	U	100	U
NITROBENZENE	2000	11	U	11	U	11	U	11	U	11	U	11	U	11	U	11	U	10	U	10	U	10	U	100	U
HEXACHLOROBUTADIENE	500	11	U	11	U	11	U	11	U	11	U	11	U	11	U	11	U	10	U	10	U	10	U	100	U
2,4,6-TRICHLORPHENOL	2000	11	U	11	U	11	U	11	U	11	U	11	U	11	U	11	U	10	U	10	U	10	U	100	U
2,4,5-TRICHLOROPHENOL	400000	26	U	26	U	26	U	26	U	26	U	26	U	26	U	26	U	26	U	26	U	26	U	250	U
2,4-DINITROTOLUENE	130	11	U	11	U	11	U	11	U	11	U	11	U	11	U	11	U	10	U	10	U	10	U	100	U
HEXACHLOROBENZENE	130	11	U	11	U	11	U	11	U	11	U	11	U	11	U	11	U	10	U	10	U	10	U	100	U
PENTACHLOROPHENOL	100000	26	U	26	U	26	U	26	U	26	U	26	U	26	U	26	U	26	U	26	U	26	U	250	U
PYRIDINE	5000	11	U	11	U	11	U	11	U	11	U	11	U	11	U	11	U	10	U	10	U	10	U	100	U
3-4 METHYLPHENOL	200000	11	U	27		36		20		2		34		3		11	U	5		130		8		100	U

ANALYTE	REG. LIMIT	BD-131		BD-132		BD-133		BD-134		BD-201		BD-202		BD-203
1,4-DICHLORBENZENE	7500	100	U	100	U	100	U	100	U	NA		NA		NA
2-METHYLPHENOL	200000	100	U	100	U	100	U	100	U	NA		NA		NA
HEXACHLOROETHANE	3000	100	U	100	U	100	U	100	U	NA		NA		NA
NITROBENZENE	2000	100	U	100	U	100	U	100	U	NA		NA		NA
HEXACHLOROBUTADIENE	500	100	U	100	U	100	U	100	U	NA		NA		NA
2,4,6-TRICHLORPHENOL	2000	100	U	100	U	100	U	100	U	NA		NA		NA
2,4,5-TRICHLOROPHENOL	400000	250	U	250	U	250	U	250	U	NA		NA		NA
2,4-DINITROTOLUENE	130	100	U	100	U	100	U	100	U	NA		NA		NA
HEXACHLOROBENZENE	130	100	U	100	U	100	U	100	U	NA		NA		NA
PENTACHLOROPHENOL	100000	250	U	250	U	250	U	250	U	NA		NA		NA
PYRIDINE	5000	100	U	100	U	100	U	100	U	NA		NA		NA
3-4 METHYLHENOL	200000	100	U	100	U	100	U	100	U	NA		NA		NA

NA = Not analyzed
U = indicates that the compound was analyzed for but not detected.
Units = μg/L
REG. LIMIT – Regulatory level obtained from 40 CFR Part 261.30.
As stated in Section 4.2, regulatory limits for semi-volatile compounds on the TCLP analyte list were not exceed in the above samples.
Samples were collected from December 8, 1993 until December 14, 1993 by Kyle Thomas (O'Brien & Gere Engineers) and Patricia Rosato and Jeff Bullis (Stetson-Harza).
As stated in the QAPP for the project, samples were analyzed by H2M Labs, Inc. Data were validated by Data Validation Services, North Creek, New York.

TABLE 6c
BOSSERT SITE
SITE NO. 633029
DEBRIS SAMPLES
TCLP METALS

ANALYTE	REG. LIMIT	BD047		BD051		BD063		BD064		BD069		BD076		BD084		BD090		BD097		BD106		BD123		BD130	
ARSENIC	5000	15	U	15	U	15	U	15	U	15	U	15	U	15	U	15	U	34.4		15	U	15	U	15	U
BARIUM	100000	599		271		471		298		136		217		685		159		97.8		323		613		68.9	
CADMIUM	1000	59.7		39.9		40.1		71.5		7		3		21.7		1.3	U	1.6		2		35.5		1.3	
CHROMIUM	5000	8.7		6.4	U	33		140		16.3		6.4	U	37.5		90.1		7.1		6.4	U	15.6		6.4	U
LEAD	5000	30.5		13	U	279		287		1430		19.5		912		29.5		13	U	13	U	66.8		13	U
MERCURY	200	0.23	J	0.17	J	0.1	U	0.4	J	0.14	J	0.14	J	0.11	J	0.26	J	0.35	J	0.12	J	0.15	J	0.13	
SELENIUM	1000	135		92.9		95.8		101		109		120		74.6		115		142		121		102		24	U
SILVER	5000	10	J	10	J	10	J	10	J	10	J	10	J	10	J	10	J	10	J	10	J	10	J	10	J

ANALYTE	REG. LIMIT	BD131		BD132		BD133		BD134		BD201		BD202		BD203	
ARSENIC	5000	15	U	15	U	19.3		15	U	15	U	15	U	15	U
BARIUM	100000	441		502		71.9		63.8		327		371		250	
CADMIUM	1000	4.9		22.2		3.2		1.3	U	11.7		11.8		3.1	
CHROMIUM	5000	6.4	U	6.8		13.7		6.4	U	6.4	U	531		6.4	U
LEAD	5000	13	U	13	U	23.8		13	U	1610		598		13	U
MERCURY	200	0.11		0.11		0.1		0.24		0.1	U	0.1	U	0.1	U
SELENIUM	1000	24	U	33.2		24	U	24	U	24	U	24	U	24	U
SILVER	5000	10	J	10	J	10	J	10	J	10	J	10	J	10	J

U = Indicates that the compound was analyzed for but not detected.
J = Indicates an estimated value.
Units = $\mu g/l$
REG. LIMIT – Regulatory level obtained from 40 CFR Part 261.30.
As stated in Section 4.2, the above samples are below the TCLP regulatory criteria for metals on the TCLP list.
Samples were collected from December 8, 1993 until December 14, 1993 by Kyle Thomas (O'Brien & Gere Engineers) and Patricia Rosato and Jeff Bullis (Stetson–Harza).
As stated in the QAPP for the project, samples were analyzed by H2M Labs, Inc. Data were validated by Data Validation Services, North Creek, New York.

BOS - 1.4058

TABLE 6d
BOSSERT SITE
SITE NO. 633029
DEBRIS SAMPLES
CORROSIVITY/REACTIVITY

ANALYTE	REG. LIMIT	BD047	BD051	BD063	BD064	BD069	BD076	BD084	BD090	BD097	BD106	BD123	BD130
FLASH POINT (CELSIUS)	60	>60	>60	>60	>60	>60	>60	>60	>60	>60	>60	>60	>60
pH (CORROSIVITY)	2>pH>12.5	7.7	7	7.1	6.8	7.5	8.2	6.2	7.3	9	9.9	6.2	3.7
REACTIVE TO WATER	N/A	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
RELEASES CYANIDE*	250000	<1	<1	<1	<1	<1.4	<1	<1	<1.4	<1.2	<1	<1	<0.1
RELEASES SULFIDE**	500	R	R	R	R	R	R	R	R	R	R	R	R

ANALYTE	REG. LIMIT	BD131	BD132	BD133	BD134
FLASH POINT (CELSIUS)	60	>60	>60	>60	>60
pH (CORROSIVITY)	2>pH>12.5	4.8	5	4.8	3.2
REACTIVE TO WATER	N/A	NO	NO	NO	NO
RELEASES CYANIDE*	250000	<0.1	<0.1	<0.1	<0.1
RELEASES SULFIDE**	500	R	R	R	R

* Units = μg/Kg
** Units = mg/Kg
R = Rejected result
REG. LIMIT – Regulatory level obtained from 40 CFR Part 261.30.
The pH for sample BB001 is 2.0 which is equal to, but does not fall, regulatory criteria for corrosivity.

Samples were collected from December 8, 1993 until December 14, 1993 by Kyle Thomas (O'Brien & Gere Engineers) and Patricia Rosato and Jeff Bullis (Stetson-Harza).
As stated in the QAPP for the project, samples were analyzed by H2M Labs, Inc. Data were validated by Data Validation Services, North Creek, New York.

ANALYTE	REG. LIMIT	BD047		BD051		BD063		BD064		BD06[illegible]		BD076		BD084		BD090		BD097		BD1[illegible]		BD12[illegible]		[illegible]	
gamma-BHC(LINDANE)	4000	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	[illegible]	[illegible]	0.5	U
HEPTACHLOR	8	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	[illegible]	[illegible]	0.5	U
HEPTACHLOR EPOXIDE	8	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
ENDRIN	20	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
METHOXYCHLOR	10000	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U
CHLORDANE	30	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U
TOXAPHENE	500	50	U	50	U	50	U	50	U	50	U	50	U	50	U	50	U	50	U	50	U	50	U	50	U
2,4-D	10000	20	U	20	U	20	U	20	U	20	U	20	U	20	U	20	U	20	U	20	U	20	U	20	U
2,4,5-TP (SILVEX)	1000	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U

ANALYTE	REG. LIMIT	BD131		BD132		BD133		BD134	
gamma-BHC(LINDANE)	4000	0.5	U	0.5	U	0.5	U	0.5	U
HEPTACHLOR	8	0.5	U	0.5	U	0.5	U	0.5	U
HEPTACHLOR EPOXIDE	8	0.5	U	0.5	U	0.5	U	0.5	U
ENDRIN	20	1	U	1	U	1	U	1	U
METHOXYCHLOR	10000	5	U	5	U	5	U	5	U
CHLORDANE	30	2.5	U	2.5	U	2.5	U	2.5	U
TOXAPHENE	500	50	U	50	U	50	U	50	U
2,4-D	10000	20	U	20	U	20	U	20	U
2,4,5-TP (SILVEX)	1000	5	U	5	U	5	U	5	U

U = Indicates that the compound was analyzed for but not detected.
Units = µg/l
REG. LIMIT – Regulatory level obtained from 40 CFR Part 261.30.
As stated in Section 4.2, TCLP regulatory criteria were not exceeded for herbicides/pesticides on the TCLP list.

Samples were collected from December 8, 1993 until December 14, 1993 by Kyle Thomas (O'Brien & Gere Engineers) and Patricia Rosato and Jeff Bullis (Stetson-Harza).
As stated in the QAPP for the project, samples were analyzed by H2M Labs, Inc. Data were validated by Data Validation Services, North Creek, New York.

TABLE 7a
BOSSERT SITE
SITE NO. 633029
OIL & GREASE
TCLP VOLATILES

ANALYTE	REG. LIMIT	BO001		BO002		BO003		BO004		BO005		BO006	
VINYL CHLORIDE	200	10	U	10	U	10	U	10	U	10	U	10	U
1,1-DICHLOROETHENE	500	10	U	12		10	U	10	U	10	U	10	U
CHLOROFORM	6000	10	U	10	U	10	U	10	U	10	U	10	U
1,2-DICHLOROETHANE	500	10	U	10	U	10	U	10	U	10	U	10	U
2-BUTANONE	200000	10	J	10	J	10	J	10	J	10	J	10	J
CARBON TETRACHLORI	500	10	U	10	U	10	U	10	U	10	U	10	U
TRICHLORETHENE	500	10	U	3	J	10	U	10	U	10	U	10	U
BENZENE	500	10	U	10	U	10	U	10	U	10	U	10	U
TETRACHLOROETHENE	700	10	U	10	U	10	U	10	U	10	U	10	U
CHLOROBENZENE	100000	10	U	10	U	10	U	10	U	10	U	10	U

Units = $\mu g/l$
U = Indicates that the compound was analyzed for but not detected.
J = Indicates an estimated value.
REG. LIMIT – Regulatory level obtained from 40 CFR Part 261.30.
As stated in Section 4.2, regulatory criteria for grease lines and oil reservoir samples are not exceeded for volatile compounds on the TCLP list.

TABLE 8a
BOSSERT SITE
SITE NO. 633029
DRUMS
TCLP VOLATILES

ANALYTE	REG. LIMIT	BB001		BB002	
VINYL CHLORIDE	200	10	U	10	U
1,1-DICHLOROETHENE	500	10	U	10	U
CHLOROFORM	6000	10	U	10	U
1,2-DICHLOROETHANE	500	10	U	10	U
2-BUTANONE	200000	10	J	7	J
CARBON TETRACHLORI	500	10	U	10	U
TRICHLORETHENE	500	10	U	4	J
BENZENE	500	10	U	10	U
TETRACHLOROETHENE	700	10	U	2	J
CHLOROBENZENE	100000	10	U	10	U

U = Indicates that the compound was analyzed for but not detected.
Units = $\mu g/l$
REG. LIMIT – Regulatory level obtained from 40 CFR Part 261.30.
As stated in Section 4.2, regulatory criteria for drum samples are not exceeded for volatile compounds on the TCLP list.

TABLE 7b
BOSSERT SITE
SITE NO. 633029
OIL & GREASE SAMPLES
TCLP SEMIVOLATILE

ANALYTE	REG. LIMIT	BO001		BO002		BO003		BO004		BO005		BO006	
1,4-DICHLORBENZENE	7500	10	U	NA		NA		NA		100	U	100	U
2-METHYLPHENOL	200000	10	U	NA		NA		NA		100	U	100	U
HEXACHLOROETHANE	3000	10	U	NA		NA		NA		100	U	100	U
NITROBENZENE	2000	10	U	NA		NA		NA		100	U	100	U
HEXACHLOROBUTADIENE	500	10	U	NA		NA		NA		100	U	100	U
2,4,6-TRICHLORPHENOL	2000	10	U	NA		NA		NA		100	U	100	U
2,4,5-TRICHLOROPHENOL	400000	25	U	NA		NA		.NA		250	U	250	U
2,4-DINITROTOLUENE	130	10	J	NA		NA		NA		100	U	100	U
HEXACHLOROBENZENE	130	10	J	NA		NA		NA		100	U	100	U
PENTACHLOROPHENOL	100000	25	U	NA		NA		NA		250	U	250	U
PYRIDINE	5000		R	NA		NA		NA		100	U	100	U
3-4 Methylphenol	200000	10	U	NA		NA		NA		100	U	100	U

TABLE 8b
BOSSERT SITE
SITE NO. 633029
DRUM CONTENTS SAMPLES
TCLP SEMIVOATILES

ANALYTE	REG. LIMIT	BB001		BB002	
1,4-DICHLORBENZENE	7500	100	U	100	U
2-METHYLPHENOL	200000	100	U	100	U
HEXACHLOROETHANE	3000	100	U	100	U
NITROBENZENE	2000	100	U	100	U
HEXACHLOROBUTADIENE	500	100	U	100	U
2,4,6-TRICHLORPHENOL	2000	100	U	100	U
2,4,5-TRICHLOROPHENOL	400000	250	U	250	U
2,4-DINITROTOLUENE	130	100	U	100	U
HEXACHLOROBENZENE	130	100	U	100	U
PENTACHLOROPHENOL	100000	250	U	250	U
PYRIDINE	5000	100	U	100	U
3-METHYLPHENOL	200000	100	U	100	U

Units = $\mu g/l$
NA = Not Analyzed
U = Indicates that the compound was analyzed for but not detected.
R = Indicates a rejected result.
J = Indicates an estimated value.
REG. LIMIT - Regulatory level obtained from 40 CFR Part 261.30.
As stated in Section 4.2, samples from grease lines and oil reservoirs did not excee
As stated in Section 4.2, samples from drums did not exceed regulatory limits for se

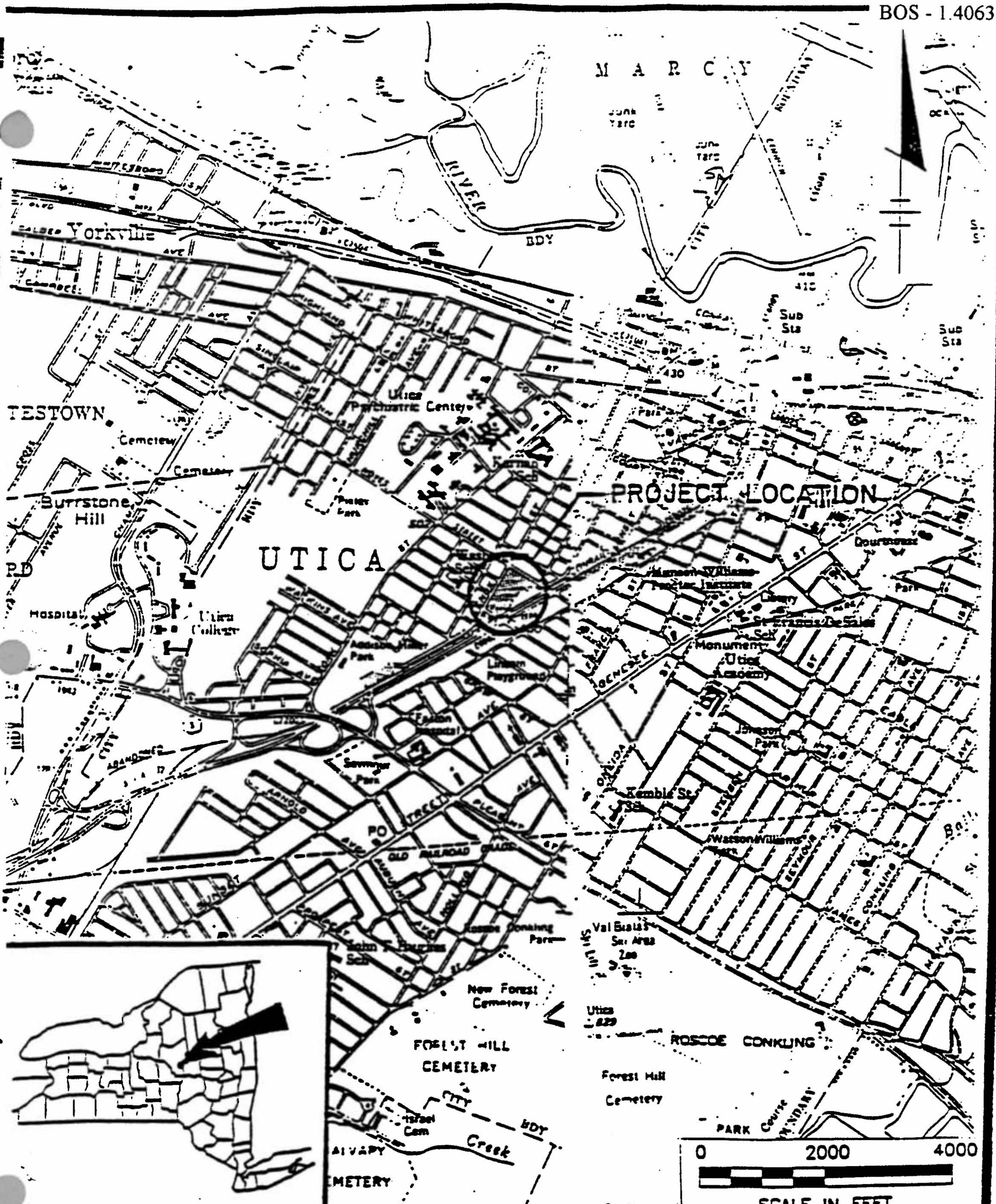
TABLE 7c
BOSSERT SITE
SITE NO. 633029
OIL & GREASE SAMPLES
TCLP METALS

ANALYTE	REG. LIMIT	BO001		BO002		BO003		BO004		BO005		BO006	
ARSENIC	5000	15	U	15	U	15	U	41.5	U	15	U	15	U
BARIUM	100000	193		15300		25800		23400		3.1		4.6	
CADMIUM	1000	1.3	U	1.3	U	1.3	U	1.3		3.9		17.2	
CHROMIUM	5000	6.4	U	6.4	U	6.4	U	6.4	U	6.4	U	6.4	U
LEAD	5000	13	U	13	U	13	U	623		13	U	32500	
MERCURY	200	0.1	U	10	U	0.1	U	0.1	U	1	U	1	U
SELENIUM	1000	24	U	24	U	24	U	24	U	24	U	24	U
SILVER	5000	10	J	10	J	10	J	10	J	10	J	10	J

TABLE 8c
BOSSERT SITE
SITE NO. 633029
DRUM CONTENTS SAMPLES
TCLP METALS

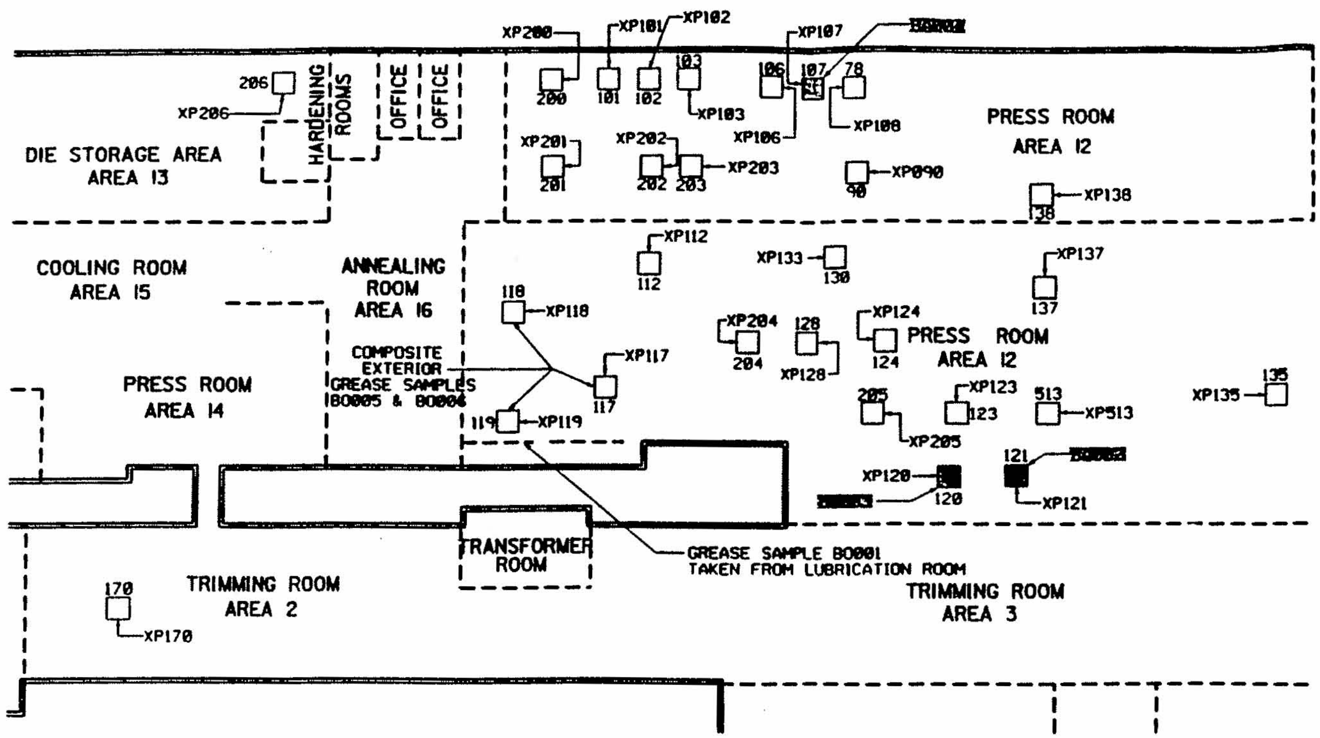
ANALYTE	REG. LIMIT	BB001		BB002	
ARSENIC	5000	25.5		15	U
BARIUM	100000	41.9		32.5	
CADMIUM	1000	183		20.1	
CHROMIUM	5000	105		6.4	U
LEAD	5000	965		44.8	
MERCURY	200	10800		1	U
SELENIUM	1000	76.1		24	U
SILVER	5000	10	J	10	J

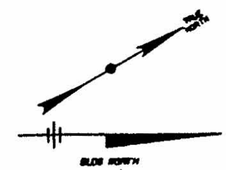
U = Indicates that the compound was analyzed for but not detected.
J = Indicates an estimated value.
Units = Ug/L
REG. LIMIT - Regualtory level obtained from 40 CFR Part 261.30.
As stated in Section 4.2, BO006 tested as hazardous for lead.
As stated in Section 4.2, sample BB001 tested as hazardous for mercury.
Remaining samples tested as non-hazardous based on TCLP regulatory limits for metals.



O'BRIEN & GERE Stetson-Harza	DATE DRAWN LRM NO. 6057	SITE MAP	FIGURE 1

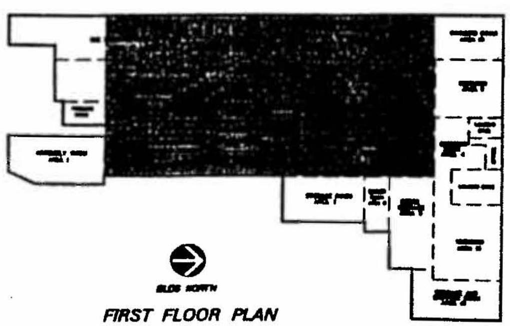
FIGURE 2





LEGEND

BULK OIL SAMPLE POINT
XP000 MACHINE WIPE SAMPLE P
B0000 BULK GREASE SAMPLE PC
100 MACHINE W/I.D. NUMBER



NOTES:

1. SAMPLES WERE COLLECTED FROM DECEMBER 6 THROUGH DECEMBER 16, 1993.
2. THE FIELD SAMPLING CREW WAS COMPRISED OF PATRICIA ROSATO, KYLE THOMAS AND JEFF BULLIS.
3. THE FOLLOWING ANALYSES WERE PERFORMED:
   - WIPE SAMPLING FOR PCB'S ON PRESSES, METAL DEBRIS, DRUMS AND CRATES
   - BULK SAMPLING PCB'S ON DEBRIS AND FLOOR SWEEPINGS, OIL RESERVOIRS, SUSPECTED ASBESTOS CONTAINING MATERIAL AND CRATES.
   - BULK SAMPLING TCLP ON DEBRIS AND FLOOR SWEEPINGS, GREASE LINES, OIL RESERVOIRS AND DRUM CONTENTS.
4. H2M LABORATORY OF MELVILLE, NY PERFORMED ANALYSIS OF ALL SAMPLES.
5. DATA VALIDATION BY DATA VALIDATION SERVICES, NORTH CREEK, NY.

BOSSERT SITE
(SITE CODE: 6-33-029)

MACHINE SAMPLING POINTS

NOT TO SCALE

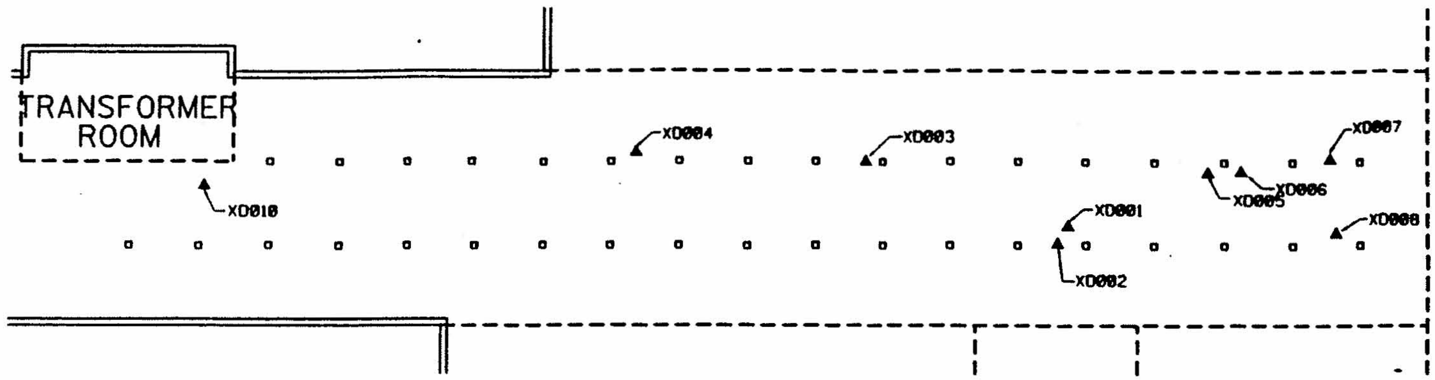
0450.046.01F

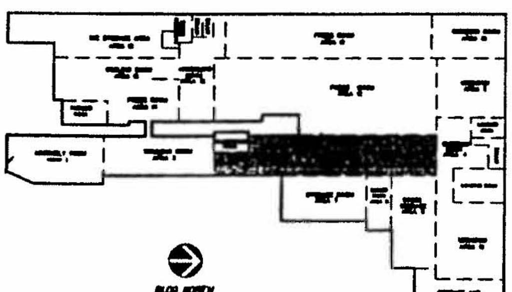
Stetson-Harza
A HARZA COMPANY
Rensselaer Technology Park
290 Jordan Rd., Troy, NY

BOS - 1.4064

BOS - 1.4065

FIGURE 3





FIRST FLOOR PLAN

NOTES:

1. SAMPLES WERE COLLECTED FROM DECEMBER 6 THROUGH DECEMBER 16, 1993.
2. THE FIELD SAMPLING CREW WAS COMPRISED OF PATRICIA ROSATO, KYLE THOMAS AND JEFF BULLIS.
3. THE FOLLOWING ANALYSES WERE PERFORMED:
   - WIPE SAMPLING FOR PCB'S ON PRESSES, METAL DEBRIS, DRUMS AND CRATES
   - BULK SAMPLING PCB'S ON DEBRIS AND FLOOR SWEEPINGS, OIL RESERVOIRS, SUSPECTED ASBESTOS CONTAINING MATERIAL AND CRATES.
   - BULK SAMPLING TCLP ON DEBRIS AND FLOOR SWEEPINGS, GREASE LINES, OIL RESERVOIRS AND DRUM CONTENTS.
4. H2M LABORATORY OF MELVILLE, NY PERFORMED ANALYSIS OF ALL SAMPLES.
5. DATA VALIDATION BY DATA VALIDATION SERVICES, NORTH CREEK, NY.

LEGEND

▲ XD000	DEBRIS WIPE SAMPLING POI
▫	COLUMN

BOSSERT SITE
(SITE CODE: 6-33-029)

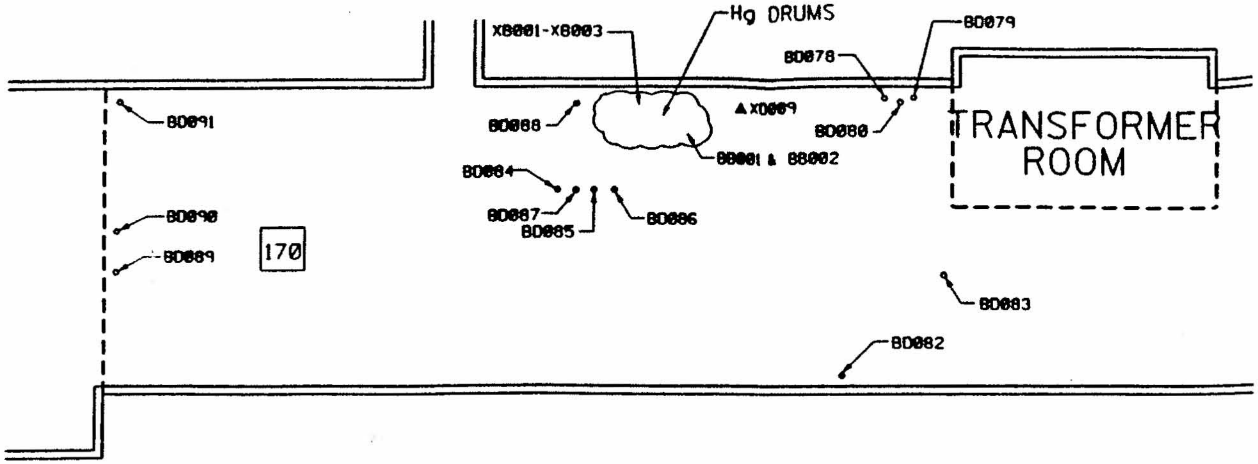
DEBRIS
WIPE SAMPLING
POINTS

NOT TO SCALE

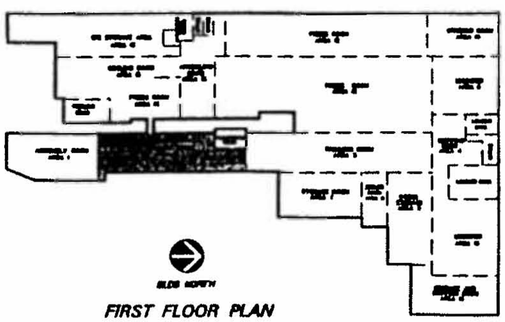
0450.046.02F

Stetson-Harza
A HARZA COMPANY

FIGURE 4



TRIMMING ROOM AREA 2 SAMPLING POINTS



FIRST FLOOR PLAN

NOTES:

1. SAMPLES WERE COLLECTED FROM DECEMBER 6 THROUGH DECEMBER 16, 1993.
2. THE FIELD SAMPLING CREW WAS COMPRISED OF PATRICIA ROSATO, KYLE THOMAS AND JEFF BULLIS.
3. THE FOLLOWING ANALYSES WERE PERFORMED:
   - WIPE SAMPLING FOR PCB'S ON PRESSES, METAL DEBRIS, DRUMS AND CRATES
   - BULK SAMPLING PCB'S ON DEBRIS AND FLOOR SWEEPINGS, OIL RESERVOIRS, SUSPECTED ASBESTOS CONTAINING MATERIAL AND CRATES.
   - BULK SAMPLING TCLP ON DEBRIS AND FLOOR SWEEPINGS, GREASE LINES, OIL RESERVOIRS AND DRUM CONTENTS.
4. H2M LABORATORY OF MELVILLE, NY PERFORMED ANALYSIS OF ALL SAMPLES.
5. DATA VALIDATION BY DATA VALIDATION SERVICES, NORTH CREEK, NY.

LEGEND

100 □	MACHINE W/I.D. NUMBER
▲ XD000	WIPE SAMPLE POINT
• BD000	BULK SOIL DEBRIS SAMPLE POINT
BB000	BARREL SAMPLE POINT
XB000	BARREL WIPE SAMPLE POINT

BOSSERT SITE
(SITE CODE: 6-33-029)

AREA 2
SAMPLING
POINTS

NOT TO SCALE

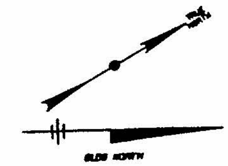
0450.046.03F

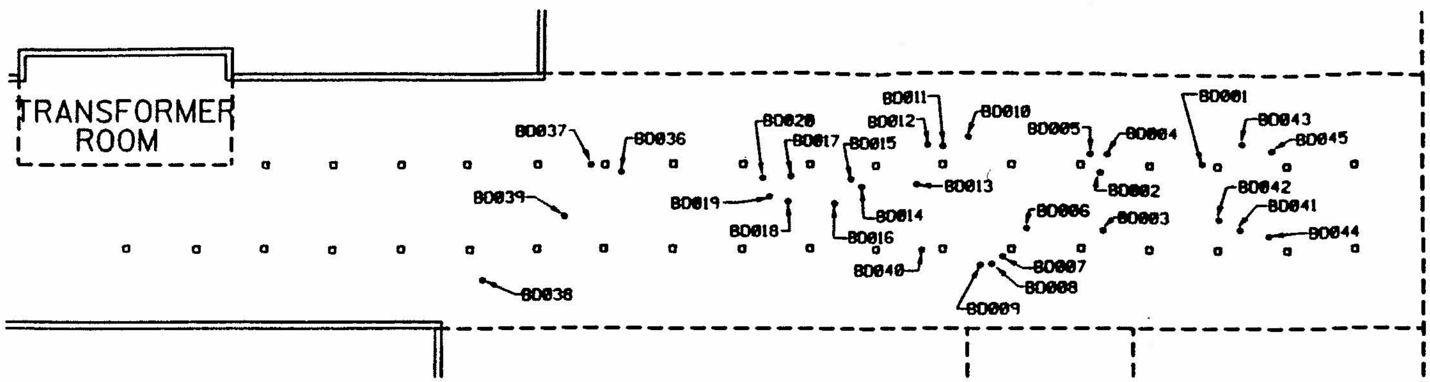
Stetson-Harza
A HARZA COMPANY
Rensselaer Technology Park
290 Jordan Rd., Troy, NY

BOS - 1.4066

BOS - 1.4067

FIGURE 5a

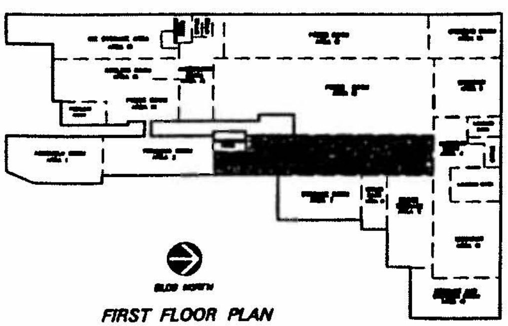




TRIMMING ROOM
AREA 3
SAMPLING POINTS

LEGEND

- • BD000 — BULK WOOD SAMPLING POI
- ▫ — COLUMN



FIRST FLOOR PLAN

NOTES:

1. SAMPLES WERE COLLECTED FROM DECEMBER 6 THROUGH DECEMBER 16, 1993.
2. THE FIELD SAMPLING CREW WAS COMPRISED OF PATRICIA ROSATO, KYLE THOMAS AND JEFF BULLIS.
3. THE FOLLOWING ANALYSES WERE PERFORMED:
   - WIPE SAMPLING FOR PCB'S ON PRESSES, METAL DEBRIS, DRUMS AND CRATES
   - BULK SAMPLING PCB'S ON DEBRIS AND FLOOR SWEEPINGS, OIL RESERVOIRS, SUSPECTED ASBESTOS CONTAINING MATERIAL AND CRATES.
   - BULK SAMPLING TCLP ON DEBRIS AND FLOOR SWEEPINGS, GREASE LINES, OIL RESERVOIRS AND DRUM CONTENTS.
4. H2M LABORATORY OF MELVILLE, NY PERFORMED ANALYSIS OF ALL SAMPLES.
5. DATA VALIDATION BY DATA VALIDATION SERVICES, NORTH CREEK, NY.

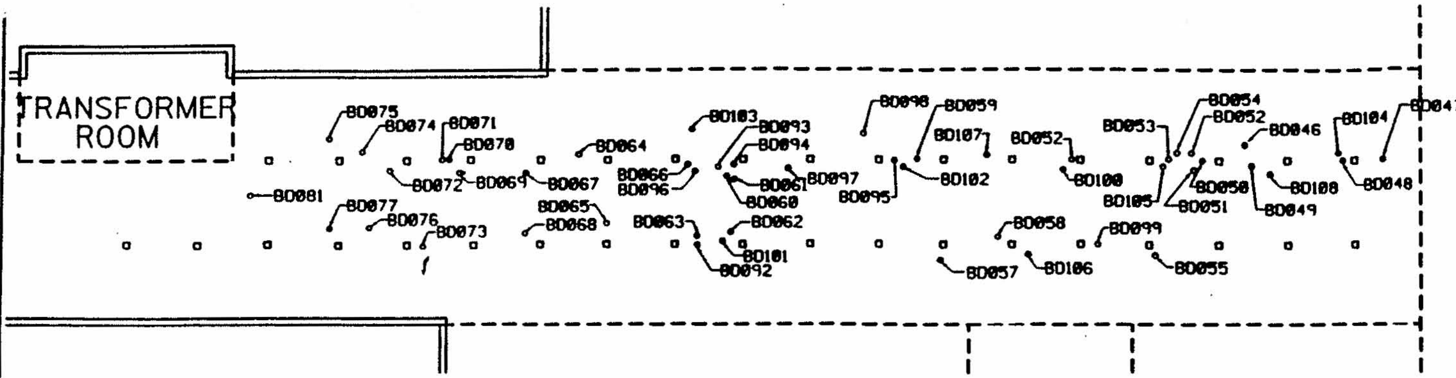
BOSSERT SITE
(SITE CODE: 6-33-029)

WOOD
SAMPLING
POINTS

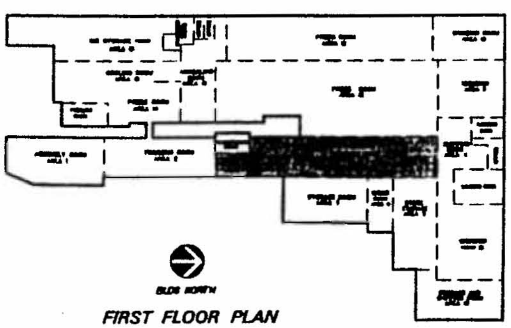
NOT TO SCALE

0450.046.04F

Stetson-Harza
A HARZA COMPANY



TRIMMING ROOM
AREA 3
SAMPLING POINTS



NOTES:

1. SAMPLES WERE COLLECTED FROM DECEMBER 6 THROUGH DECEMBER 16, 1993.
2. THE FIELD SAMPLING CREW WAS COMPRISED OF PATRICIA ROSATO, KYLE THOMAS AND JEFF BULLIS.
3. THE FOLLOWING ANALYSES WERE PERFORMED:
   - WIPE SAMPLING FOR PCB'S ON PRESSES, METAL DEBRIS, DRUMS AND CRATES
   - BULK SAMPLING PCB'S ON DEBRIS AND FLOOR SWEEPINGS, OIL RESERVOIRS, SUSPECTED ASBESTOS CONTAINING MATERIAL AND CRATES.
   - BULK SAMPLING TCLP ON DEBRIS AND FLOOR SWEEPINGS, GREASE LINES, OIL RESERVOIRS AND DRUM CONTENTS.
4. H2M LABORATORY OF MELVILLE, NY PERFORMED ANALYSIS OF ALL SAMPLES.
5. DATA VALIDATION BY DATA VALIDATION SERVICES, NORTH CREEK, NY.

FIGURE 5b

LEGEND

- ∘BD000 BULK SOIL SAMPLING POINT
- ▫ COLUMN

BOSSERT SITE
(SITE CODE: 6-33-029)

SOIL SAMPLING POINTS

NOT TO SCALE

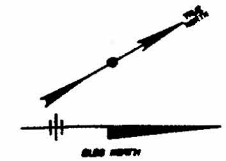
0450.046.05F

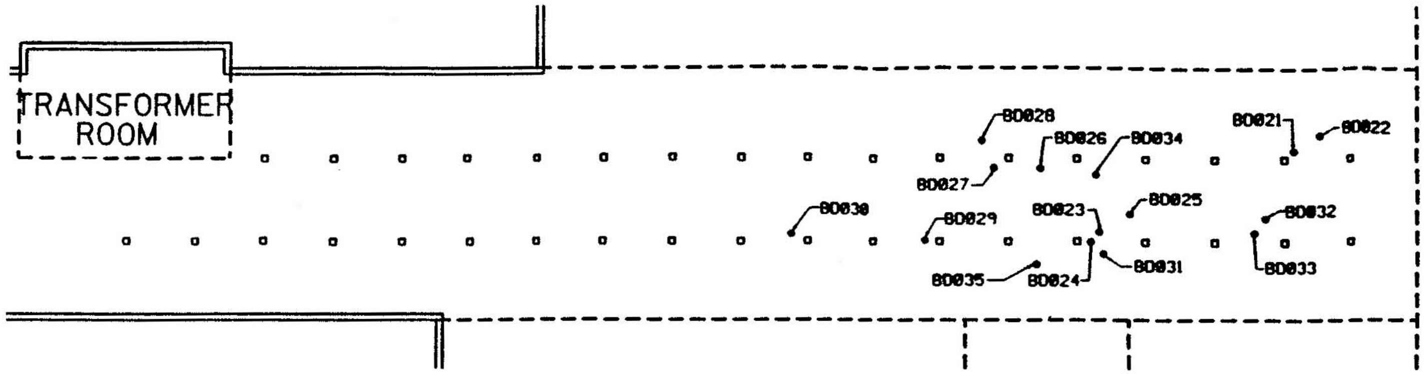
Stetson-Harza
A HARZA COMPANY

BOS - 1.4068

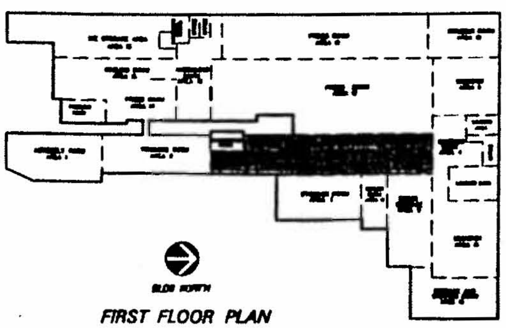
BOS - 1.4069

FIGURE 5c





TRIMMING ROOM
AREA 3
SAMPLING POINTS



FIRST FLOOR PLAN

NOTES:

1. SAMPLES WERE COLLECTED FROM DECEMBER 6 THROUGH DECEMBER 16, 1993.
2. THE FIELD SAMPLING CREW WAS COMPRISED OF PATRICIA ROSATO, KYLE THOMAS AND JEFF BULLIS.
3. THE FOLLOWING ANALYSES WERE PERFORMED:
   - WIPE SAMPLING FOR PCB'S ON PRESSES, METAL DEBRIS, DRUMS AND CRATES
   - BULK SAMPLING PCB'S ON DEBRIS AND FLOOR SWEEPINGS, OIL RESERVOIRS, SUSPECTED ASBESTOS CONTAINING MATERIAL AND CRATES.
   - BULK SAMPLING TCLP ON DEBRIS AND FLOOR SWEEPINGS, GREASE LINES, OIL RESERVOIRS AND DRUM CONTENTS.
4. H2M LABORATORY OF MELVILLE, NY PERFORMED ANALYSIS OF ALL SAMPLES.
5. DATA VALIDATION BY DATA VALIDATION SERVICES, NORTH CREEK, NY.

LEGEND

- • BD000 — BULK CARDBOARD SAMPLING POINTS
- ▫ — COLUMN

BOSSERT SITE
(SITE CODE: 6-33-029)

CARDBOARD SAMPLING POINTS

NOT TO SCALE

0450.046.06F

Stetson-Harza
A HARZA COMPANY
Rensselaer Technology Park
280 Jordan Rd., Troy, NY

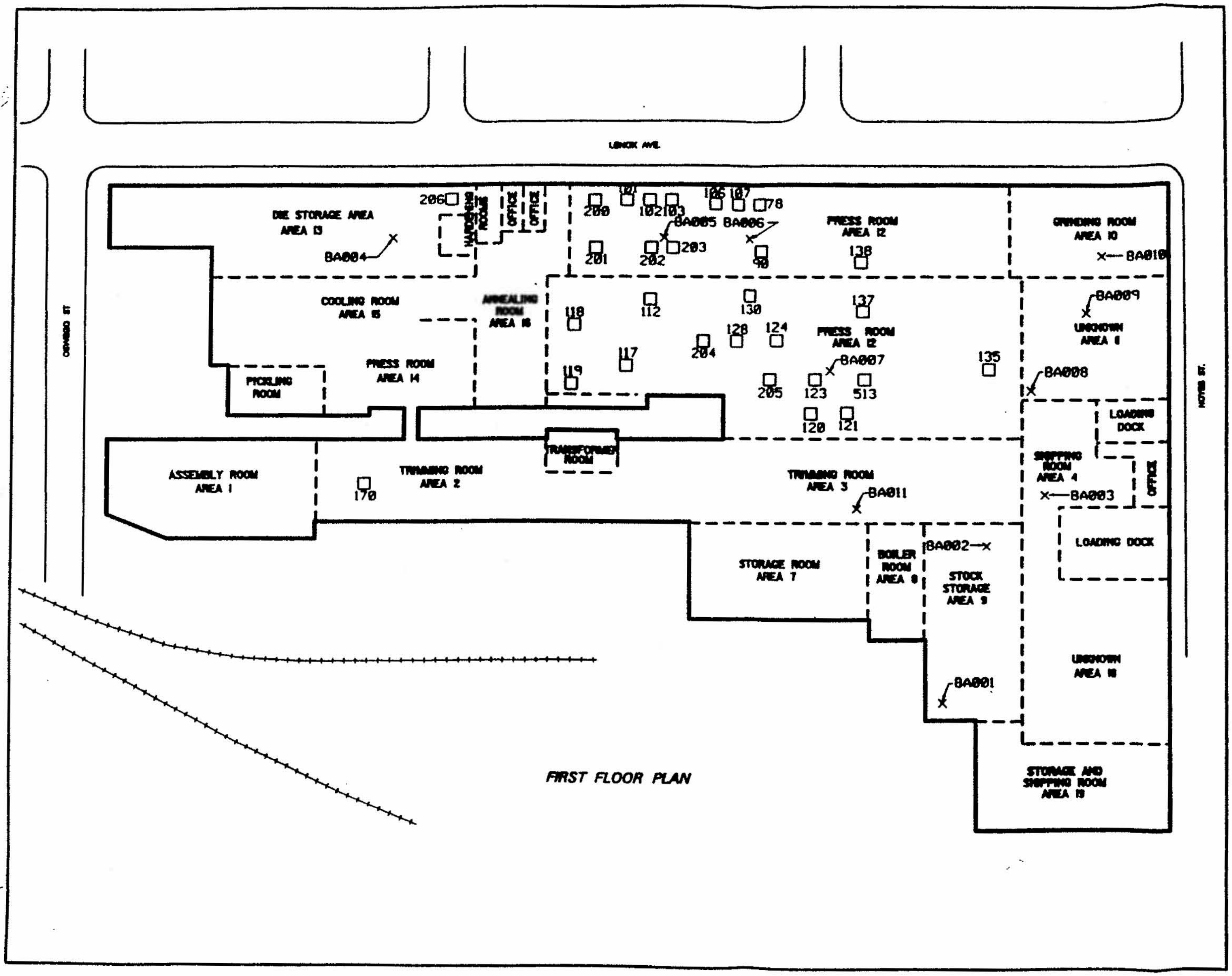


FIGURE 6

LEGEND

BA000 BULK ASBESTOS SAMPLE POI

100 MACHINE W/I.D. NUMBER

BOSSERT SITE
(SITE CODE: 6-33-029)

ASBESTOS
SAMPLING
POINTS

NOT TO SCALE

0450.046.07F

Stetson-Harza
A HARZA COMPANY

BOS - 1.4070

BOS - 1.4071

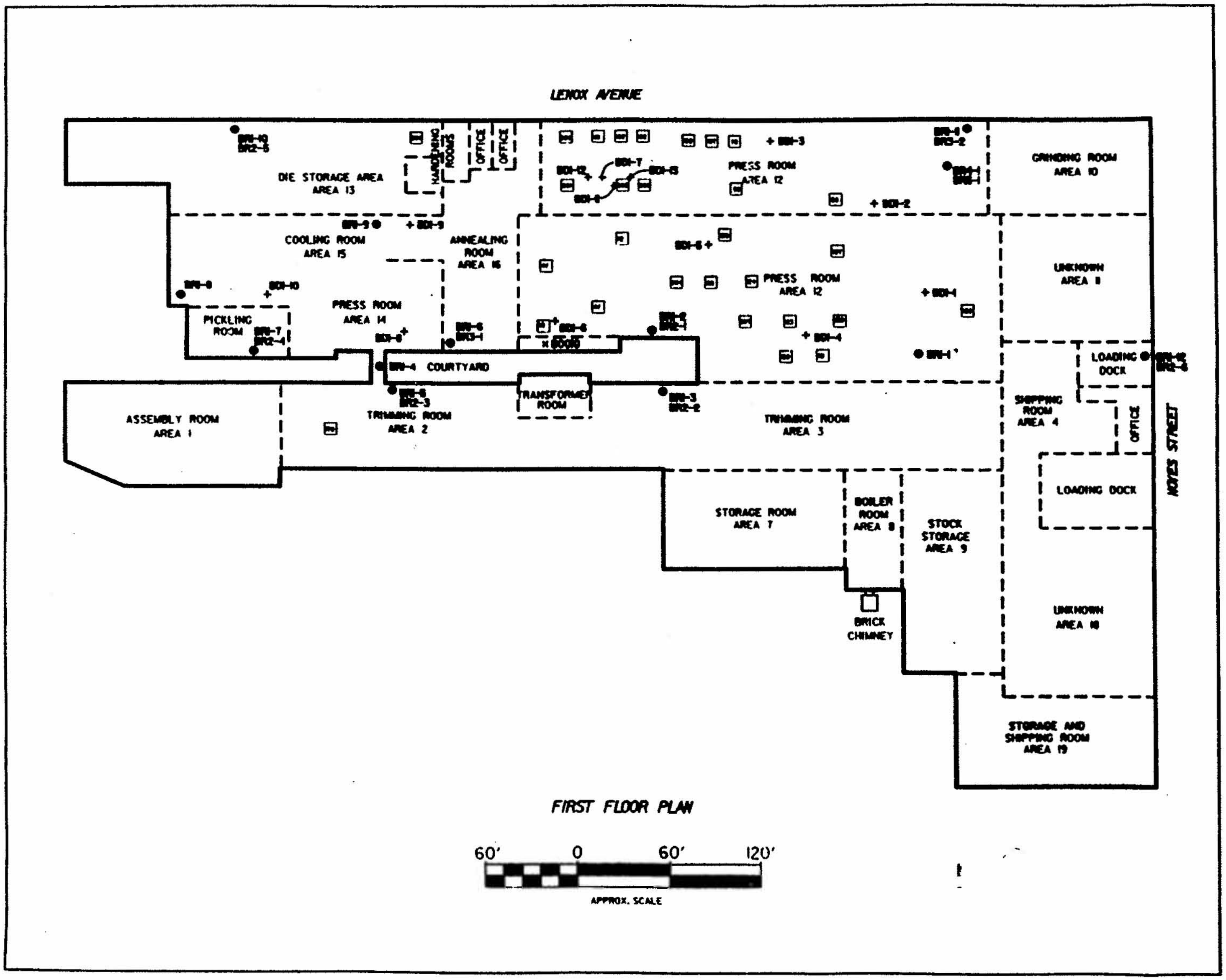


FIGURE 7

LEGEND

- ● ASBESTOS SAMPLING LOCATION
- + PCB SAMPLING LOCATION
- × GREASE SAMPLE LOCATION

BOSSERT SITE
(SITE CODE: 6-33-029)

ASBESTOS &
PCB SAMPLING
POINTS

0450.046.06F

Stetson-Harza
A HARZA COMPANY
185 Genesee Street, Utica, NY 13501 (315) 797-5800
Rensselaer Technology Park
250 Jordan Rd., Troy, NY 12180 (518) 283-8080

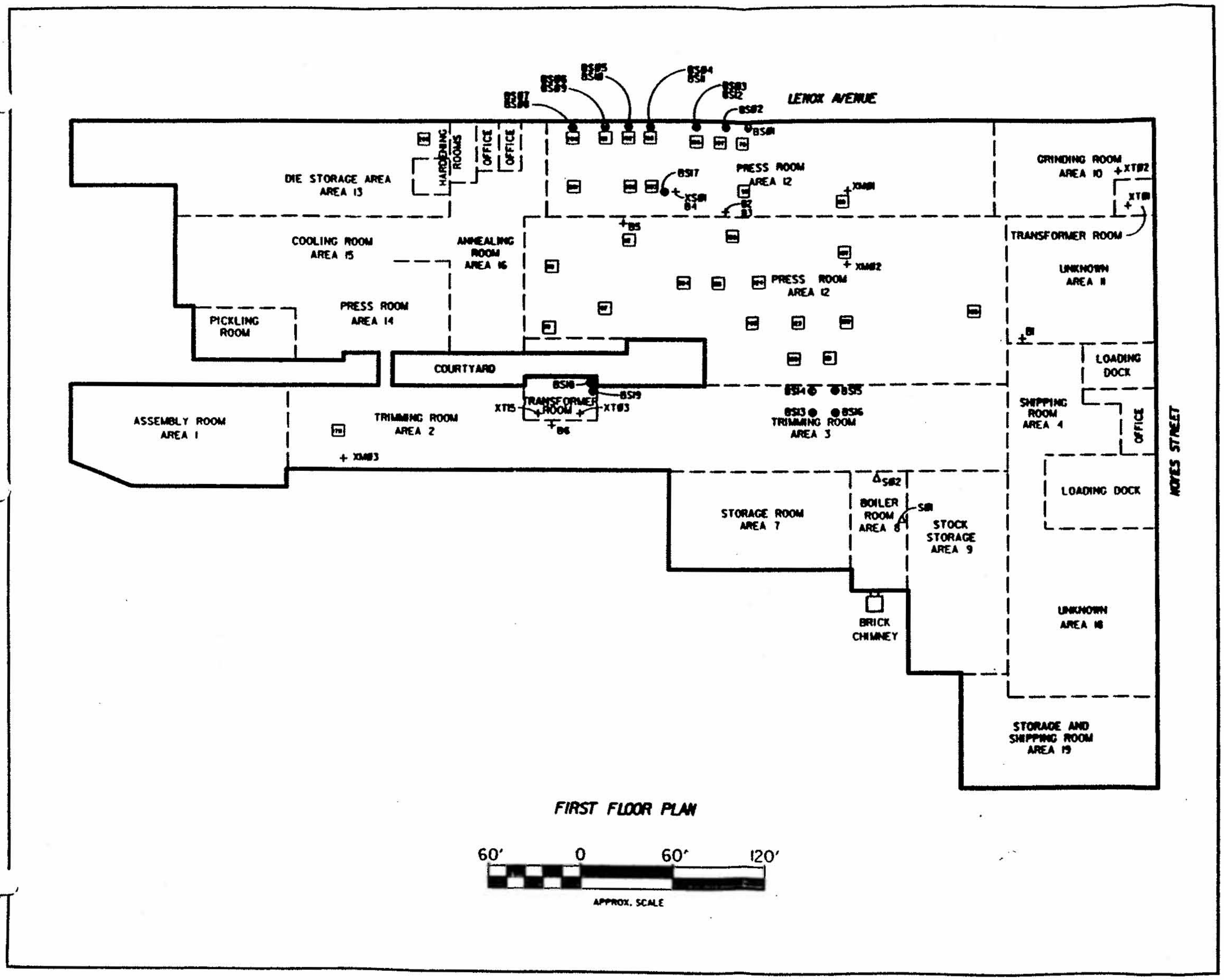


FIGURE 8

LEGEND

- ● PCB CORE SAMPLING LOCATION
- + PCB WIPE SAMPLING LOCATION
- Δ MERCURY SAMPLING LOCATION

BOSSERT SITE
(SITE CODE: 6-33-029)

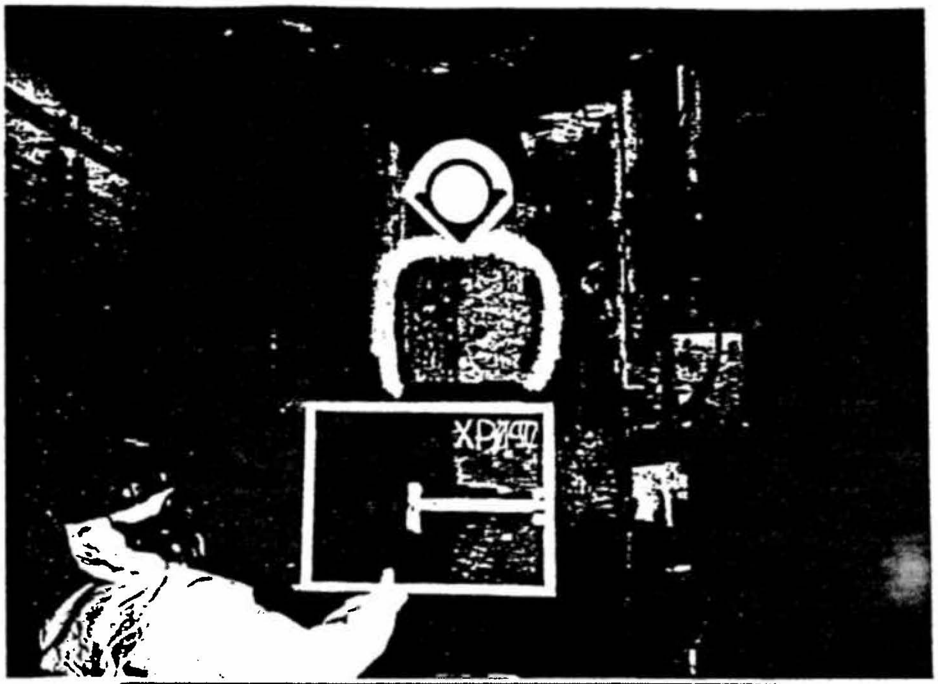
PCB & MERCURY
SAMPLING POINTS
(AUGUST 1995)

0450.046.06F

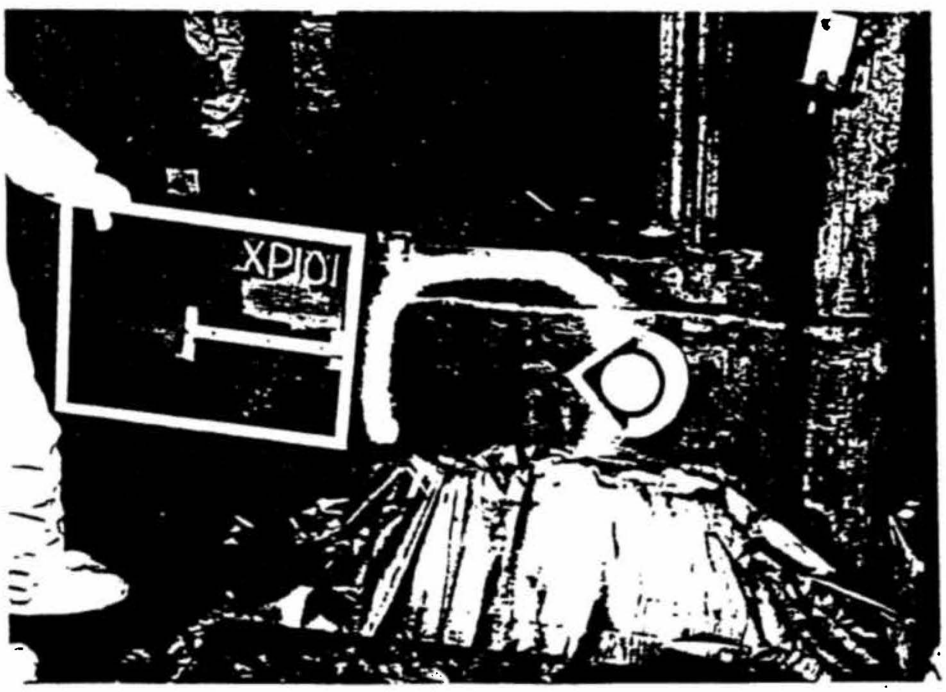
HARZA NORTHEAST
Architects, Engineers, and Construction Managers

BOS - 1.4072

PLATE 01



XP092



XP101

MACHINE WIPE SAMPLES

Stetson-Harza
A HARZA COMPANY
181 Genesee Street, Utica, NY 13501 (315) 797-5800
Rensselaer Technology Park
250 Jordan Rd., Troy, NY 12180 (518) 283-8080

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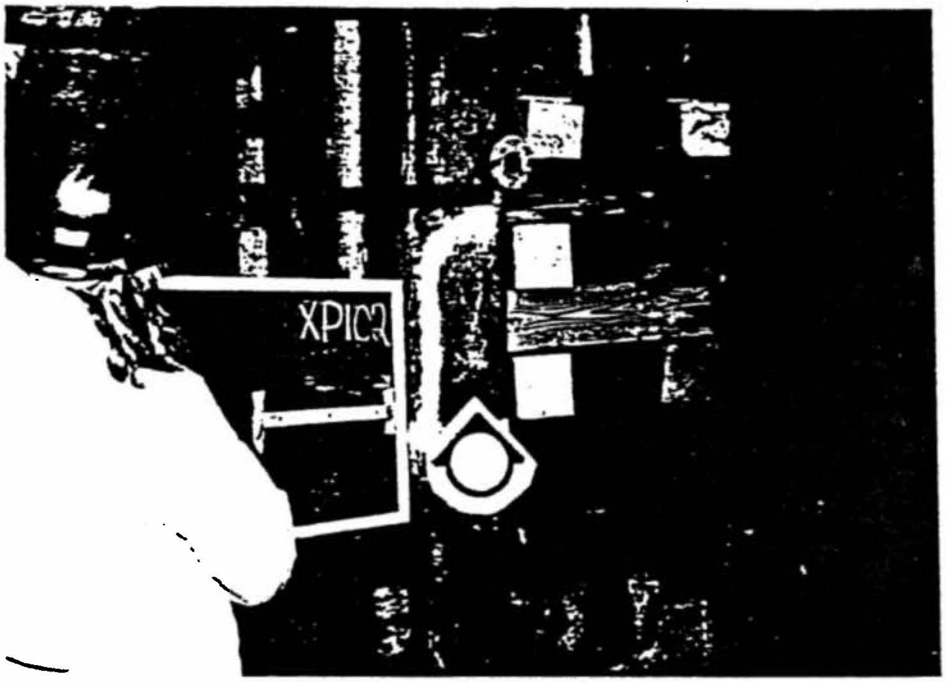
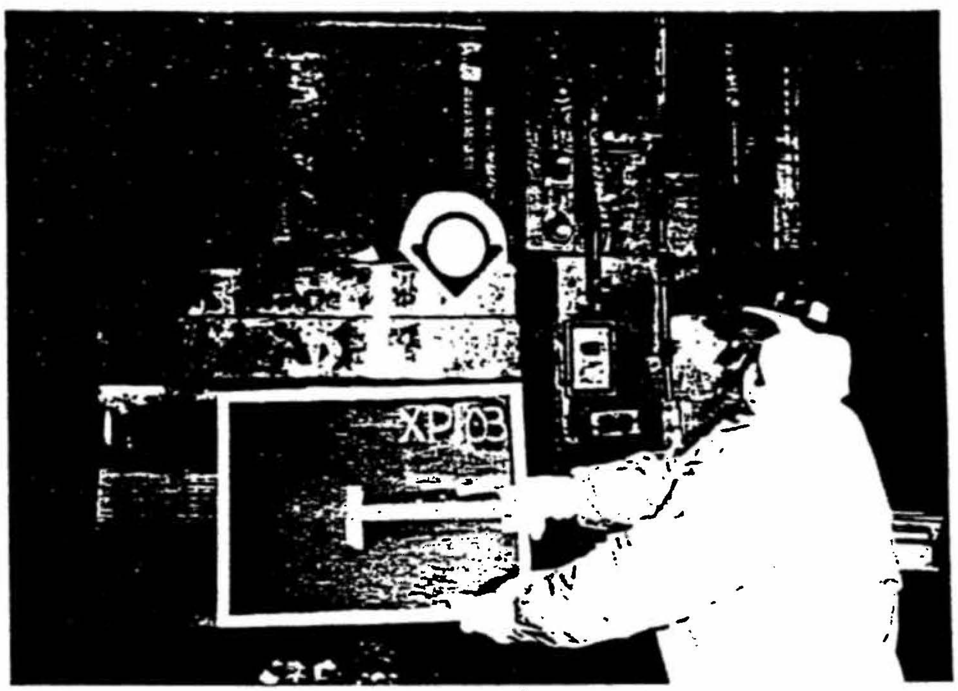
PLATE 02



XPIO2



XPI03

MACHINE WIPE SAMPLES

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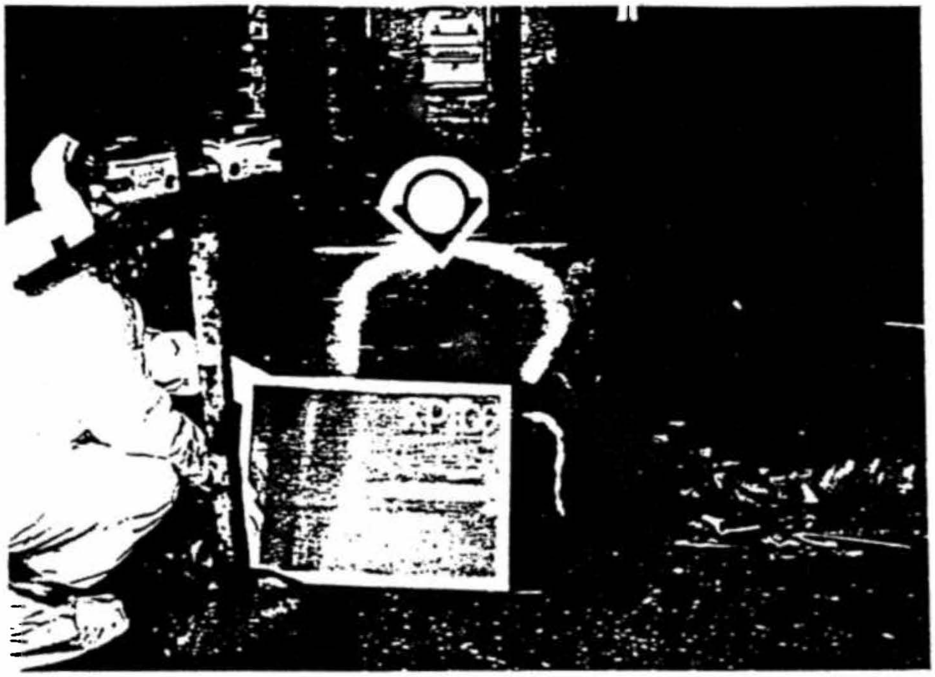
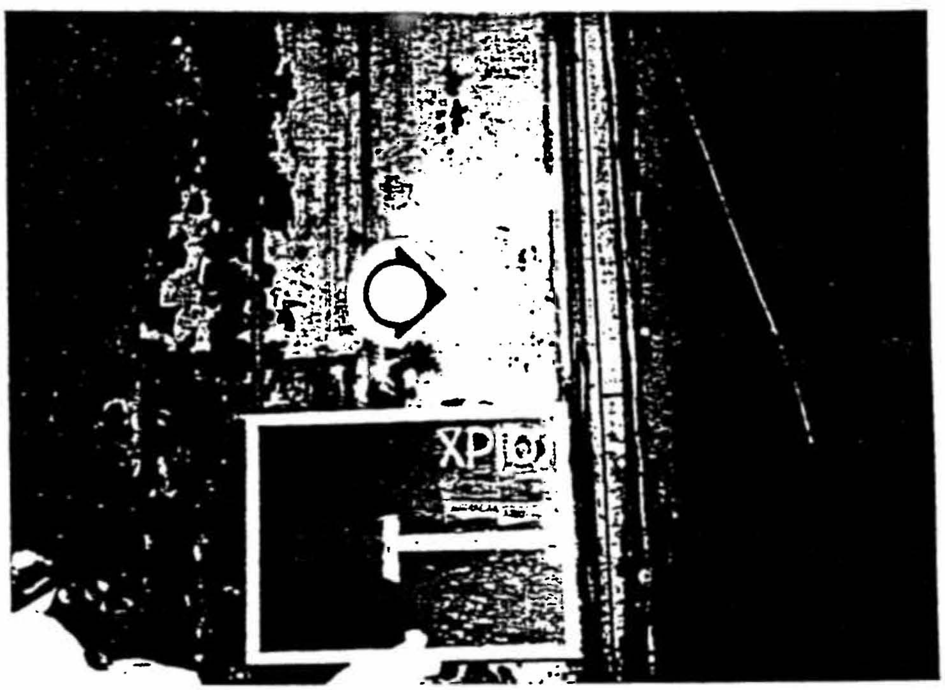
A HARZA COMPANY

FILE NO. 0450.046.09F
REVISION DATE 04/05/94

PLATE 03



XP106



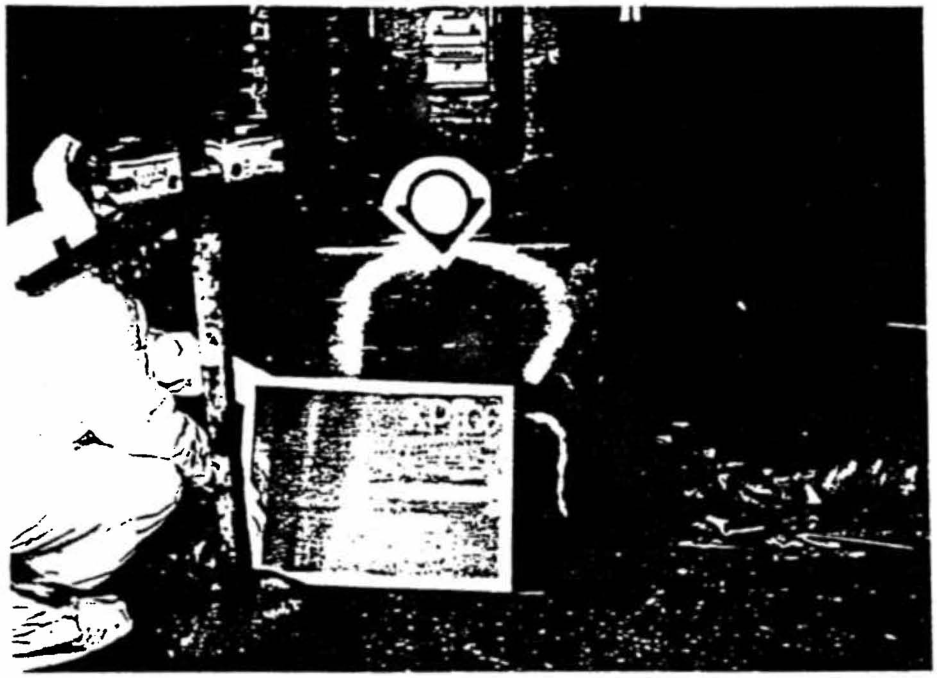
XP107

MACHINE WIPE SAMPLES

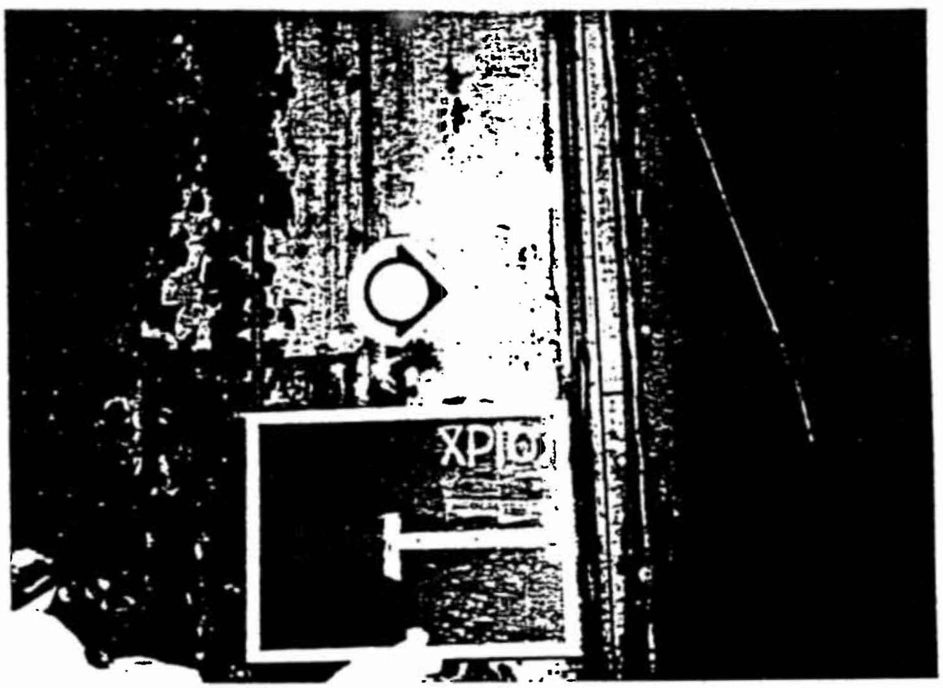
Stetson-Harza
A HARZA COMPANY

FILE NO. 0450.046.10F
REVISION DATE 04/05/94

PLATE 03



XP106



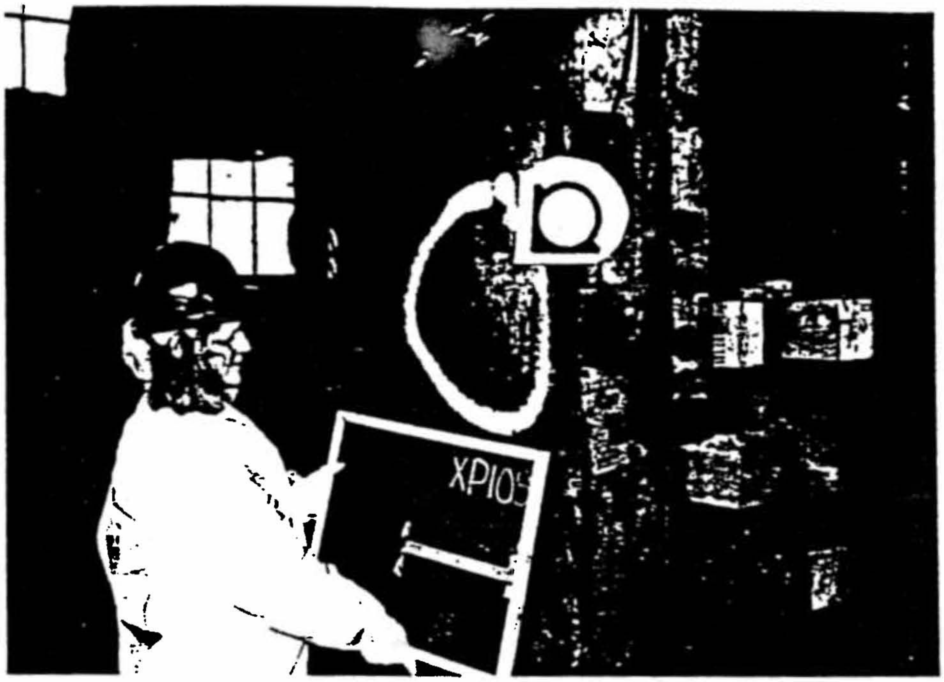
XP107

MACHINE WIPE SAMPLES

Stetson-Harza
A HARZA COMPANY

FILE NO. 0450.046.10F
REVISION DATE 04/05/94

PLATE 04



XP10[illegible]

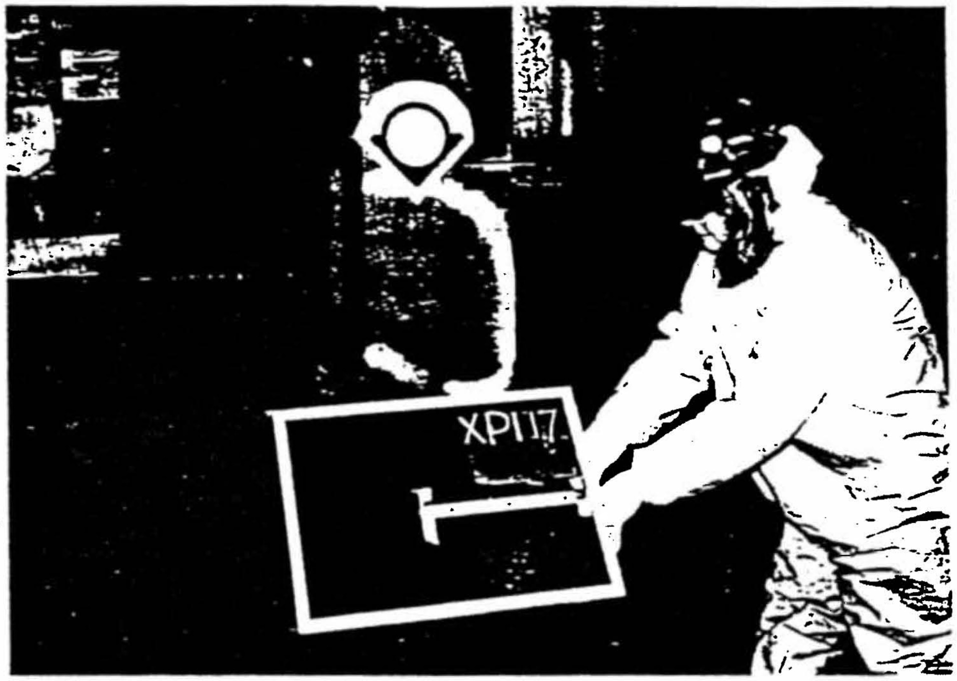
XP112

MACHINE WIPE SAMPLES

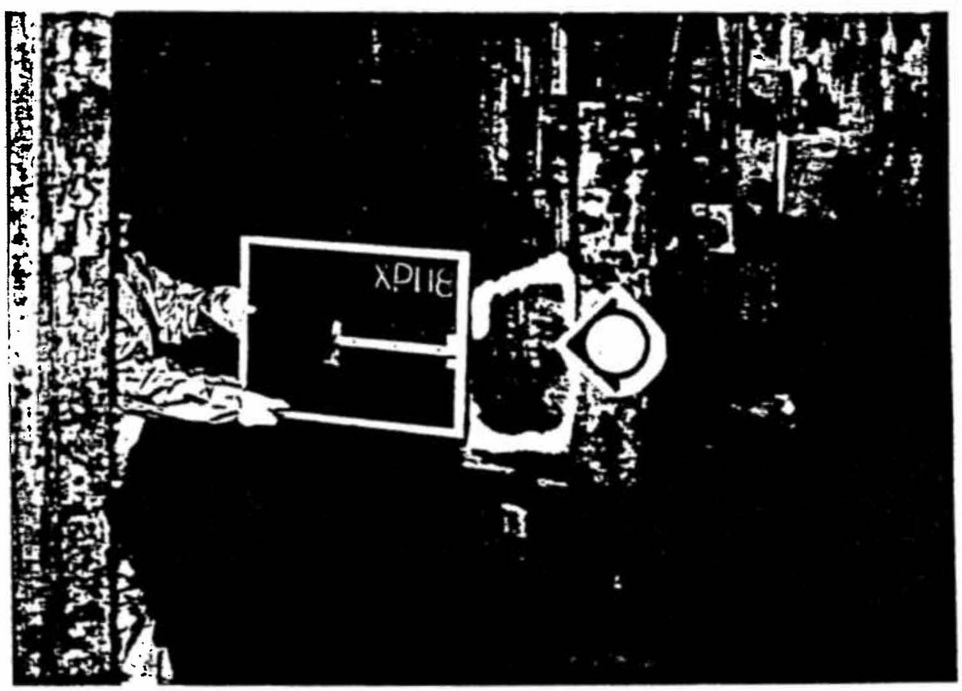
Stetson-Harza
A HARZA COMPANY
181 Genesee Street, Utica, NY [illegible]
Rensselaer Technology Park
250 Jordan Rd., Troy, NY [illegible]

FILE NO. 0450.046.11F
REVISION DATE 04/05/94

PLATE 05



XP117



XP118

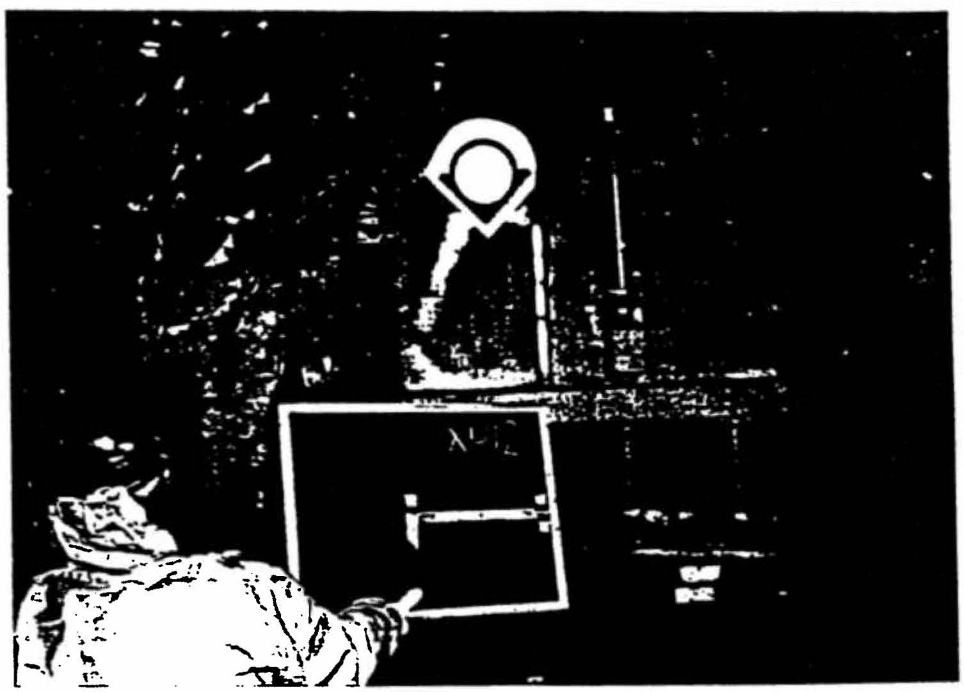
MACHINE WIPE SAMPLES

Stetson-Harza
A HARZA COMPANY

FILE NO. 0450.046.12F
REVISION DATE 04/05/94

PLATE 06

XP119



XP120

MACHINE WIPE SAMPLES

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A HARZA COMPANY
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Rensselaer Technology Park
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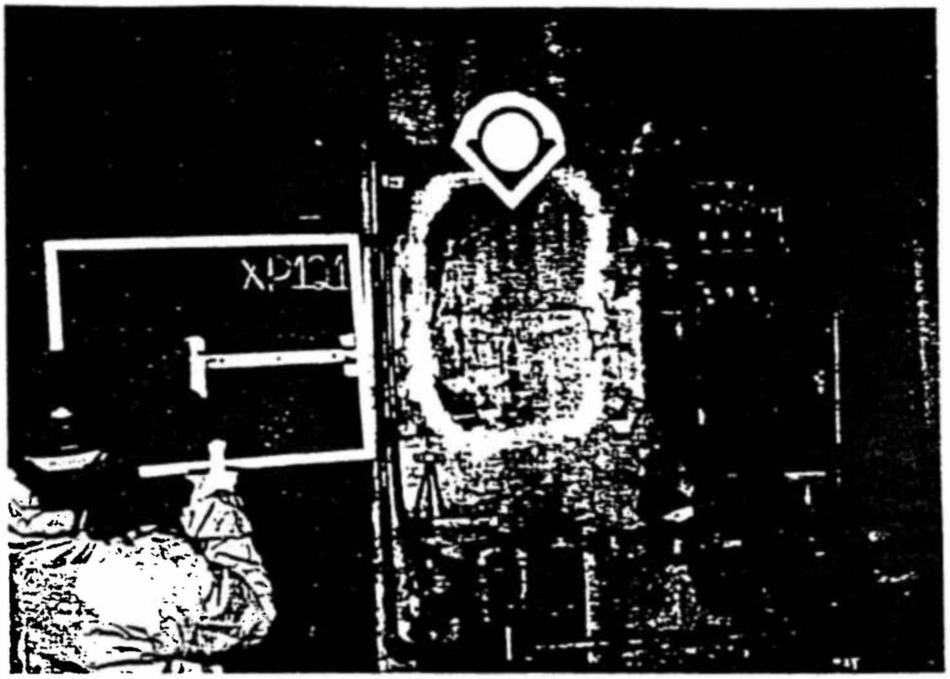
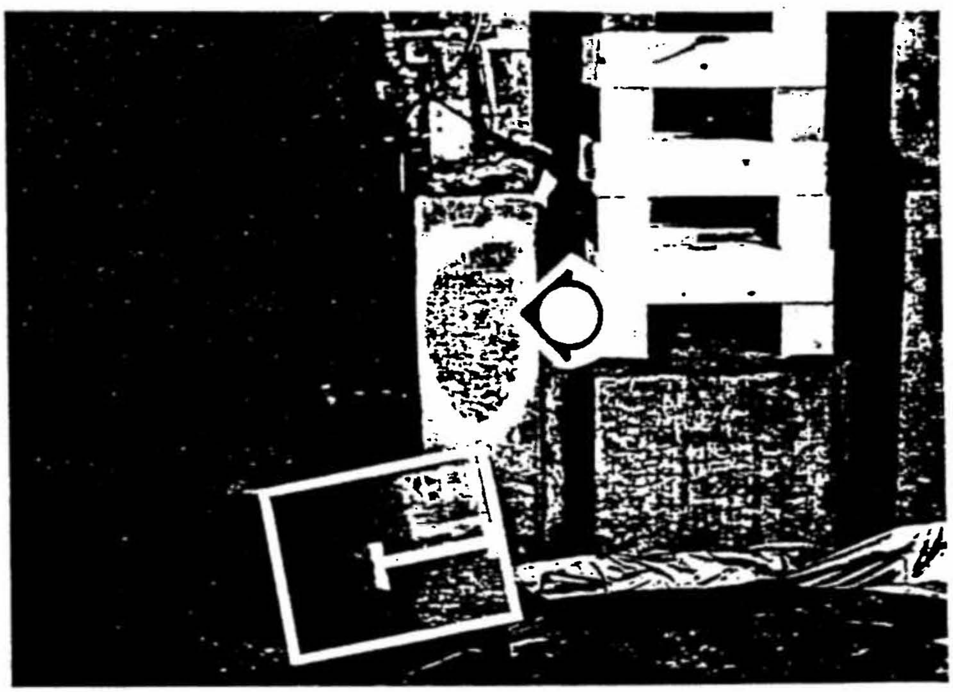
FILE NO. 0450.046.13F
REVISION DATE 04/05/94

PLATE 07



XP121



XP123

MACHINE WIPE SAMPLES

Stetson-Harza
A HARZA COMPANY
181 Genesee Street, Utica, NY 13501 (315) 797-5800
Rensselaer Technology Park
250 Jordan Rd., Troy, NY 12180 (518) 283-6080

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REVISION DATE 04/05/94

BOS - 1.4080

PLATE 08

XP127

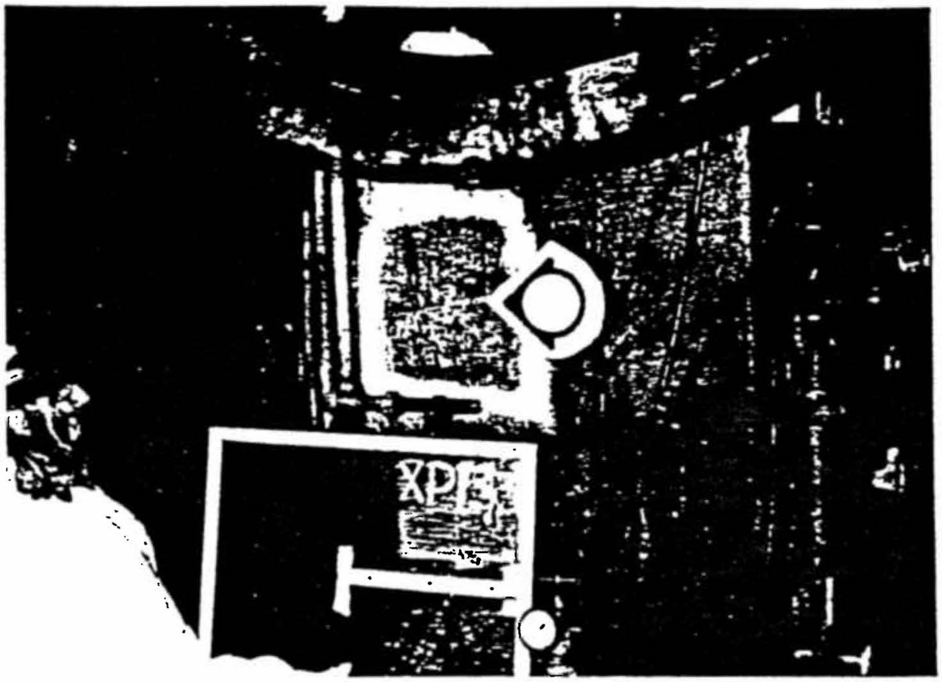
XP128

MACHINE WIPE SAMPLES

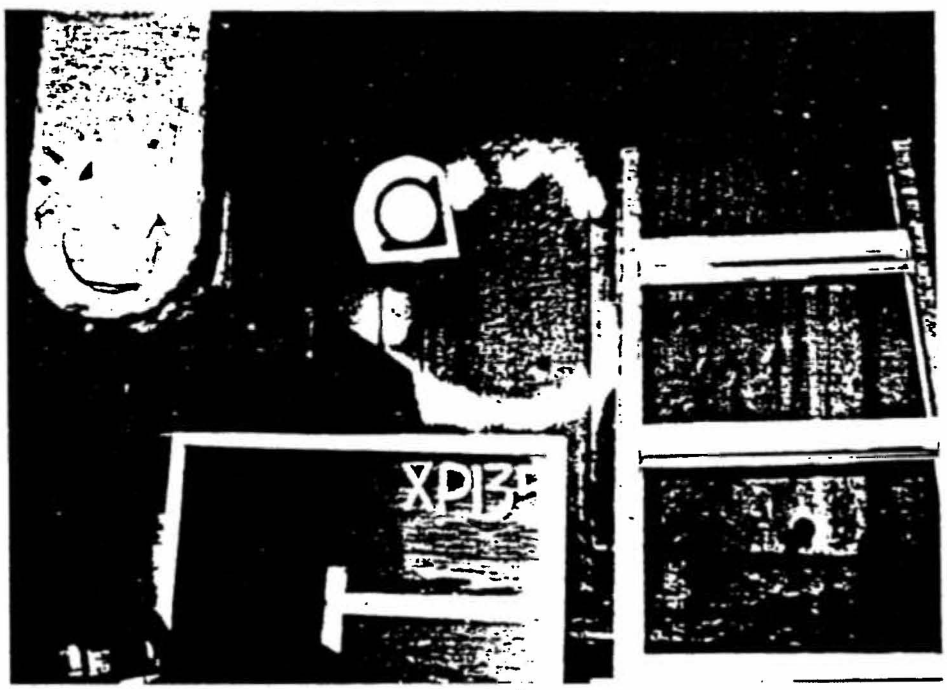
Stetson-Harza
A HARZA COMPANY

FILE NO. 0450.046.15F
REVISION DATE 04/05/94

PLATE 09



XP13



XP13

MACHINE WIPE SAMPLES

Stetson-Harza
A HARZA COMPANY
181 Genesee Street, Utica, NY 13501 (315) 797-5800
Rensselaer Technology Park
250 Jordan Rd., Troy, NY 12180 (518) 283-6080

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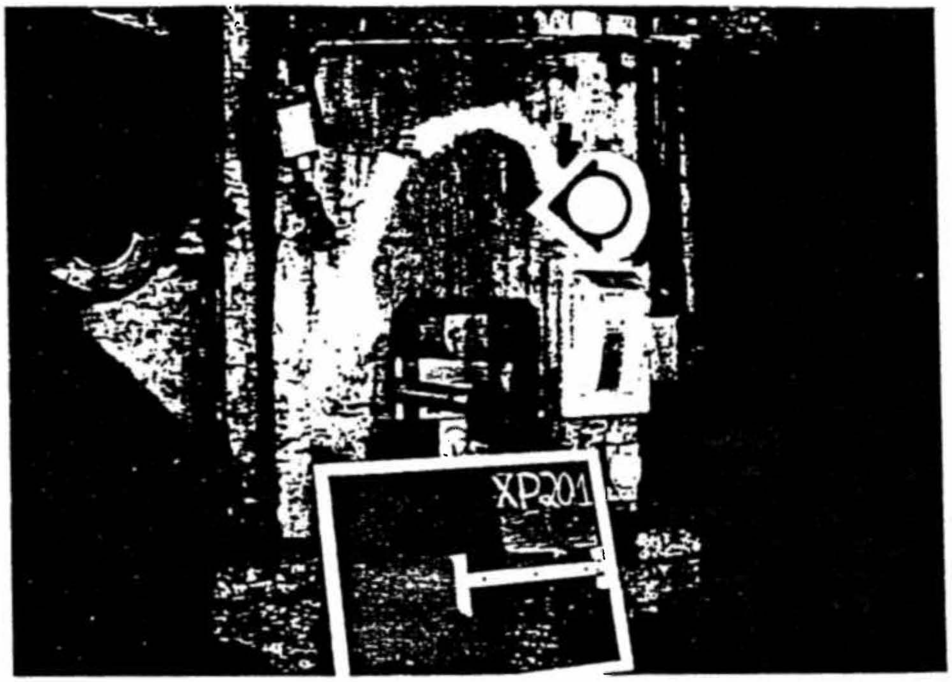
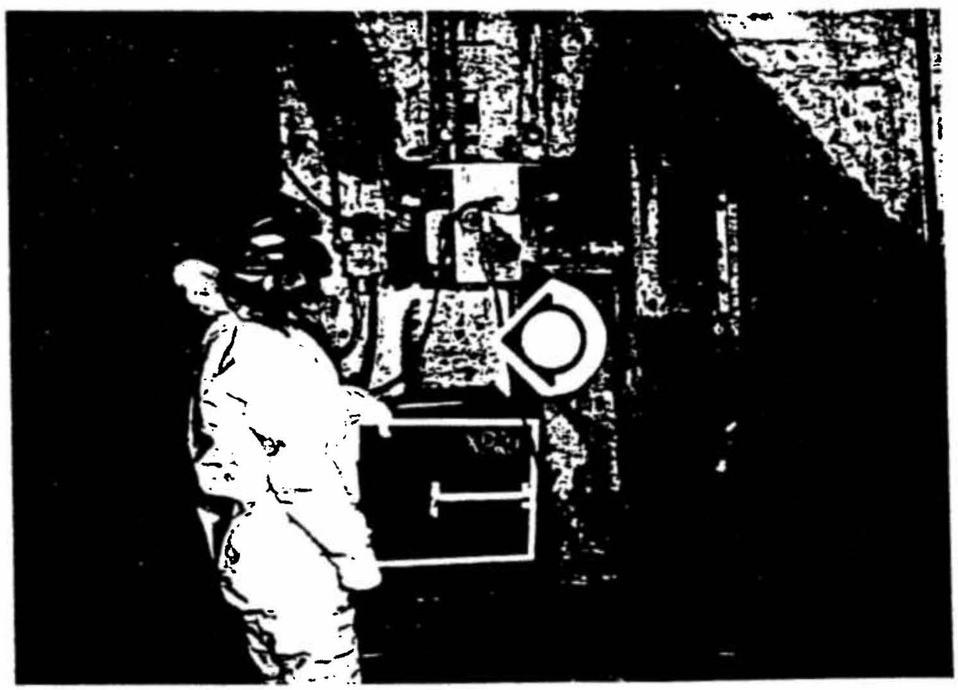
PLATE 10



XP201



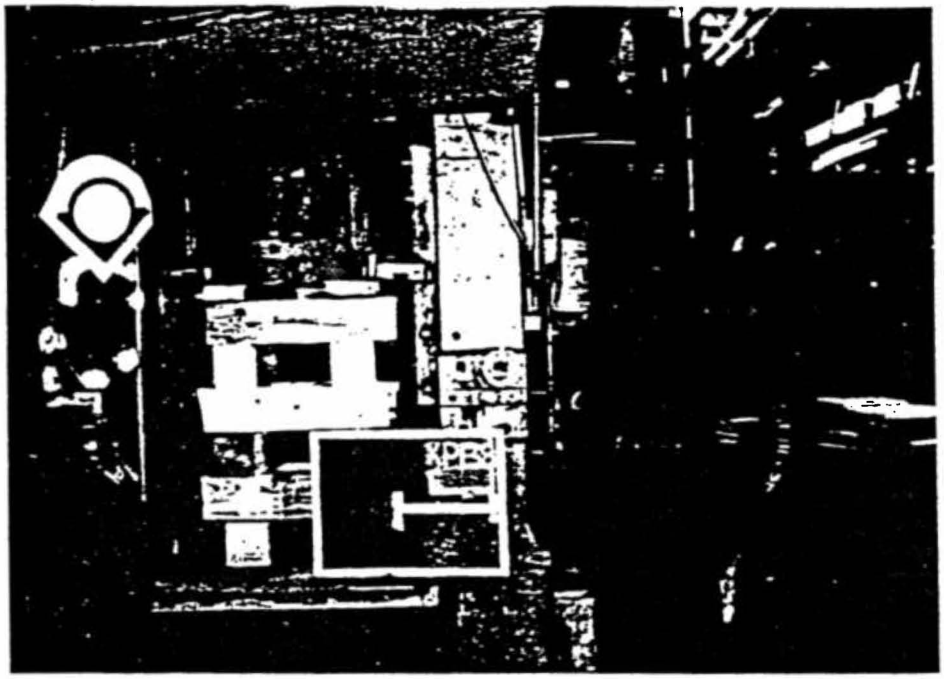
XP200

MACHINE WIPE SAMPLES

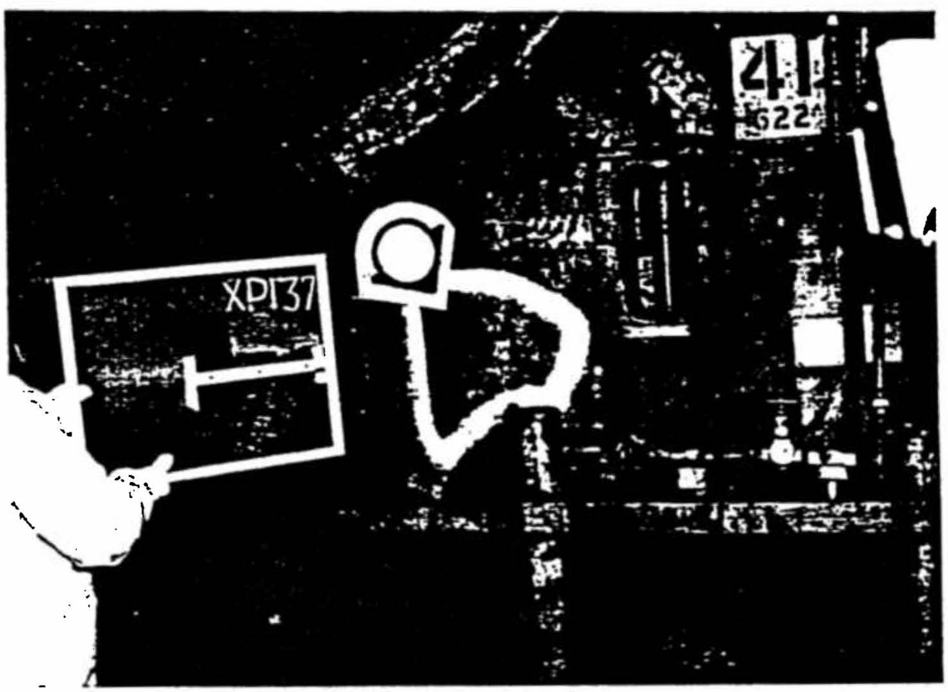
Stetson-Harza
A HARZA COMPANY
181 Genesee Street, Utica, NY 13501 (315) 797-5800
Rensselaer Technology Park
250 Jordan Rd., Troy, NY 12180 (518) 283-6050

FILE NO. 0450.046.17F
REVISION DATE 04/05/94

PLATE 11



XP13?



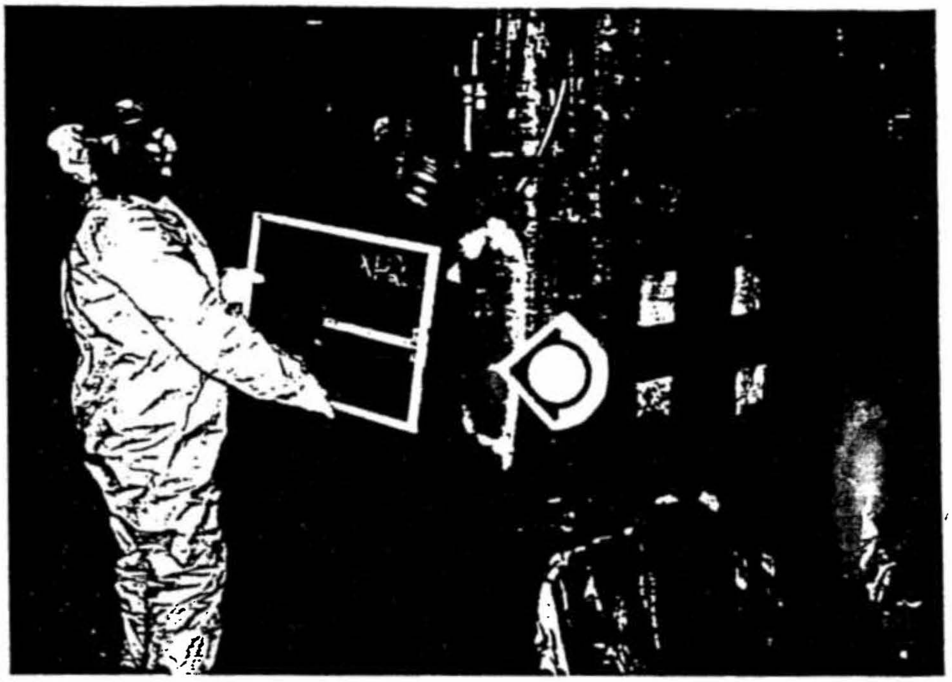
XP137

MACHINE WIPE SAMPLES

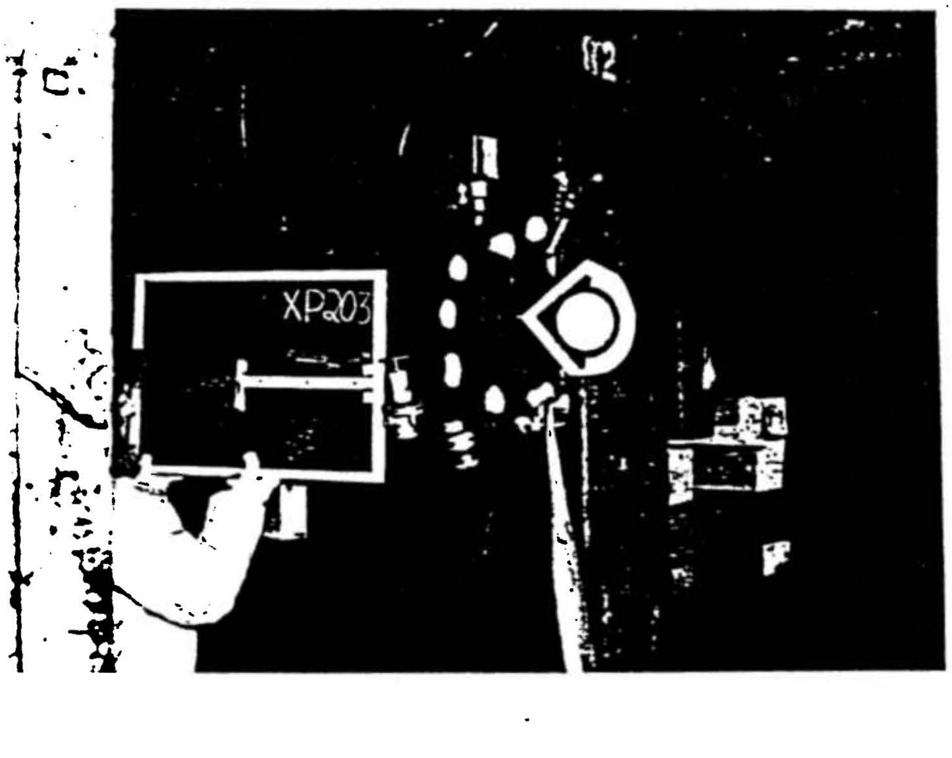
Stetson-Harza
A HARZA COMPANY
181 Genesee Street, Utica, NY 13501 (315) 797-5800
Rensselaer Technology Park
250 Jordan Rd., Troy, NY 12180 (518) 283-6080

FILE NO. 0450.046.18F
REVISION DATE 04/05/94

PLATE 12



XP202



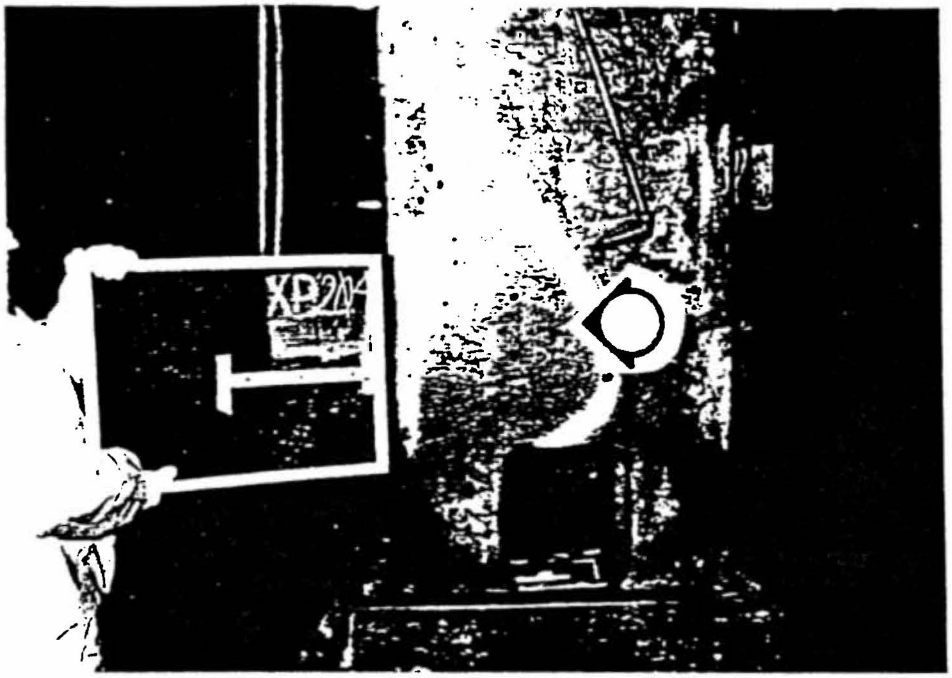
XP203

MACHINE WIPE SAMPLES

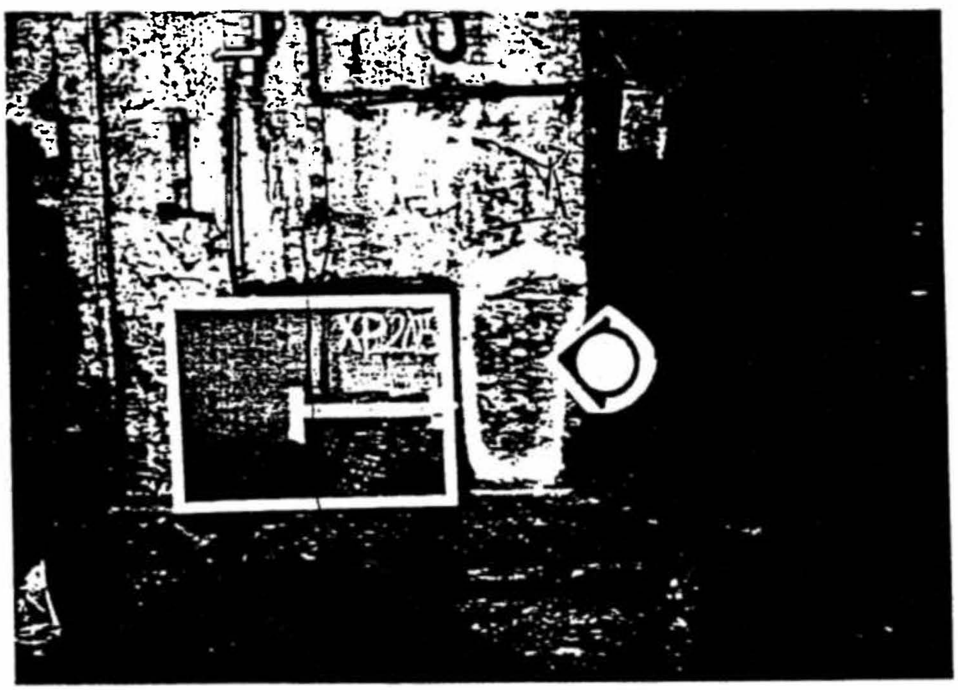
Stetson-Harza
A HARZA COMPANY

FILE NO. 0450.046.19F
REVISION DATE 04/05/94

PLATE 13



XP204



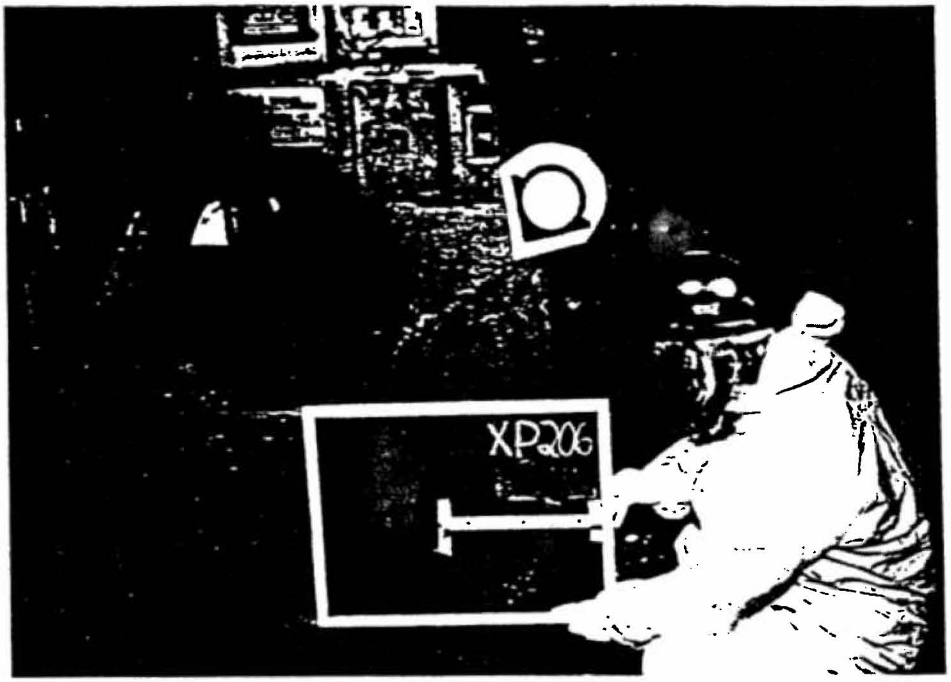
XP205

MACHINE WIPE SAMPLES

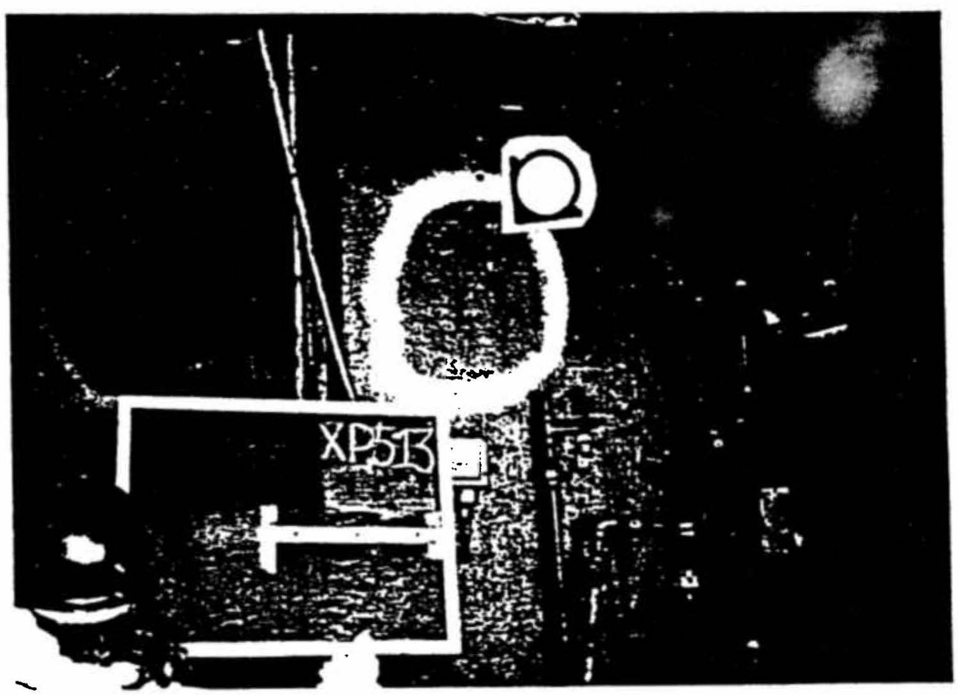
Stetson-Harza
A HARZA COMPANY
181 Genesee Street, Utica, NY 13501 (315) 797-5800
Rensselaer Technology Park
250 Jordan Rd., Troy, NY 12180 (518) 283-8080

FILE NO. 0450.046.20F
REVISION DATE 04/05/94

PLATE 14



XP206



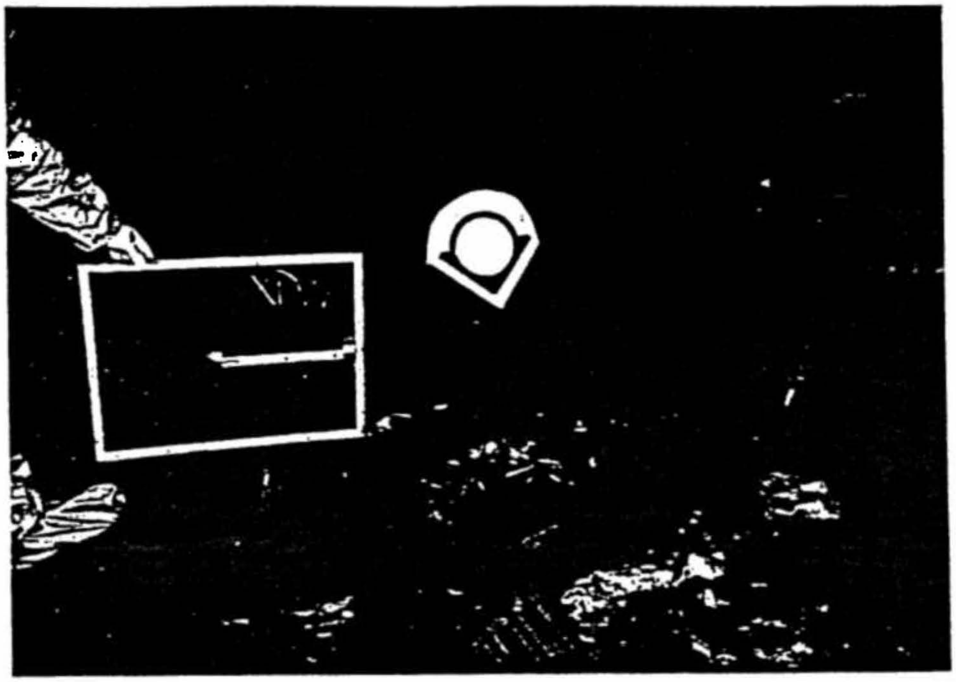
XP513

MACHINE WIPE SAMPLES

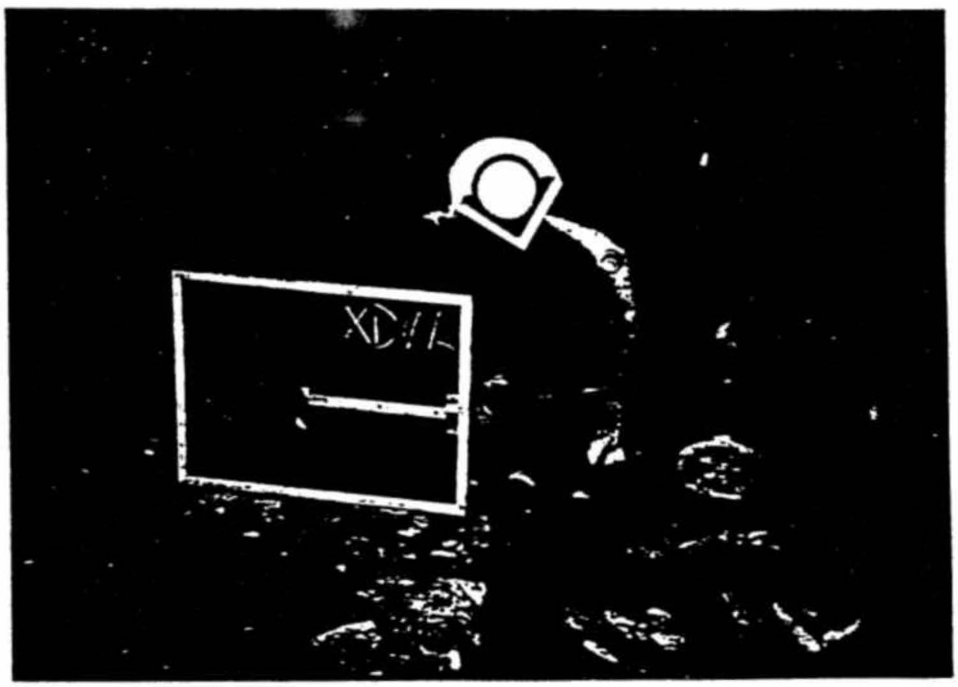
Stetson-Harza
A HARZA COMPANY
181 Genesee Street, Utica, NY 13501 (315) 797-5800
Rensselaer Technology Park
250 Jordan Rd., Troy, NY 12180 (518) 283-6080

FILE NO. 0450.046.21F
REVISION DATE 04/05/94

PLATE 15



XD001



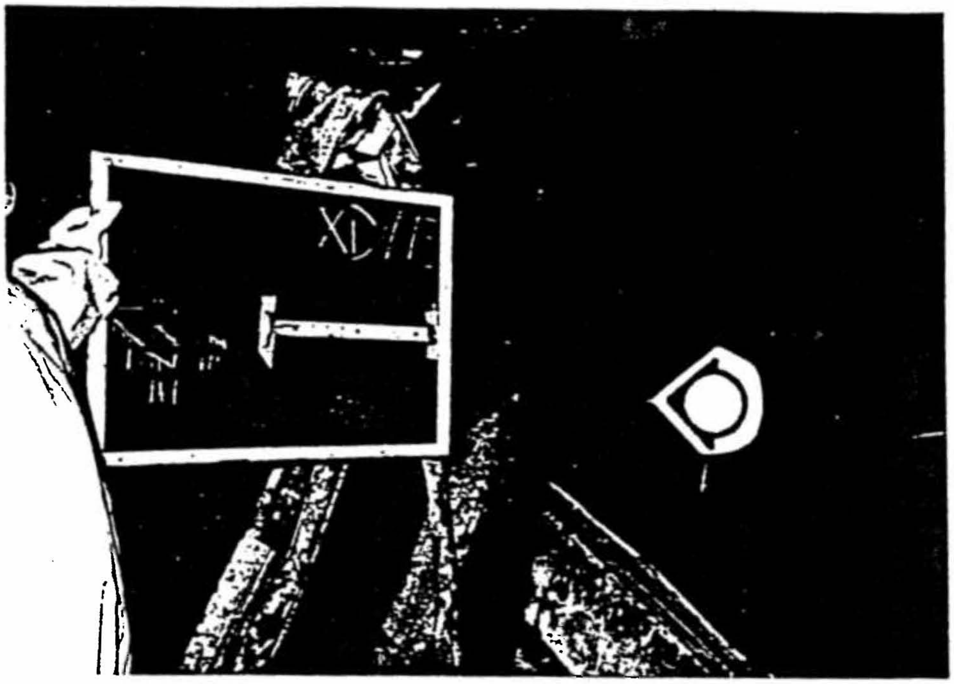
XD002

AREA 3
DEBRIS WIPE SAMPLES

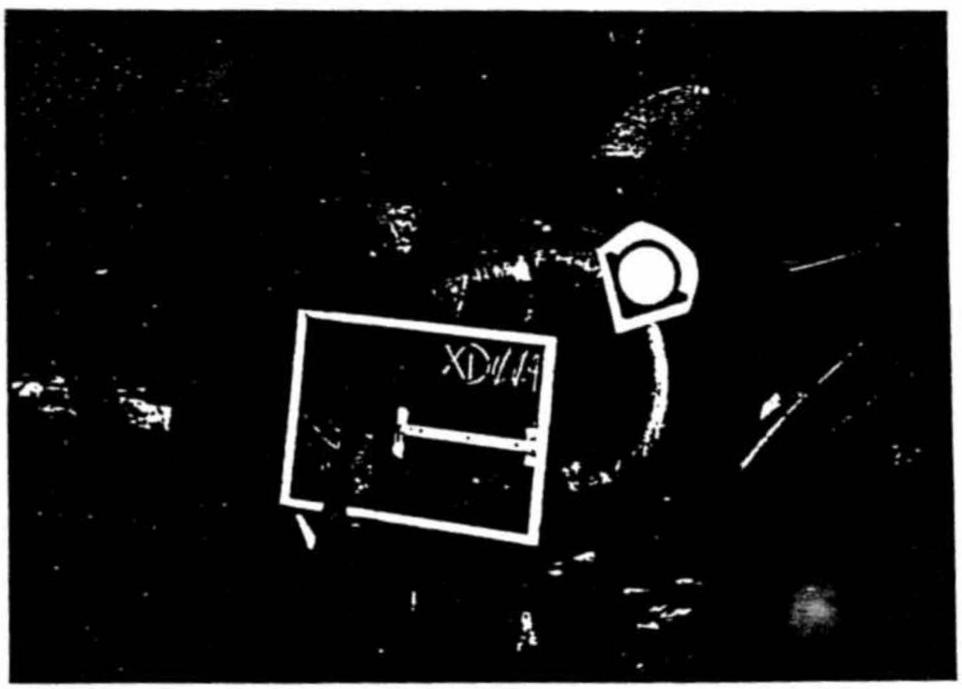
Stetson-Harza
A HARZA COMPANY
181 Genesee Street, Utica, NY 13501 (315) 797-5800
Rensselaer Technology Park
250 Jordan Rd., Troy, NY 12180 (518) 283-6080

FILE NO. 0450.046.22F
REVISION DATE 04/05/94

PLATE 16



XD003



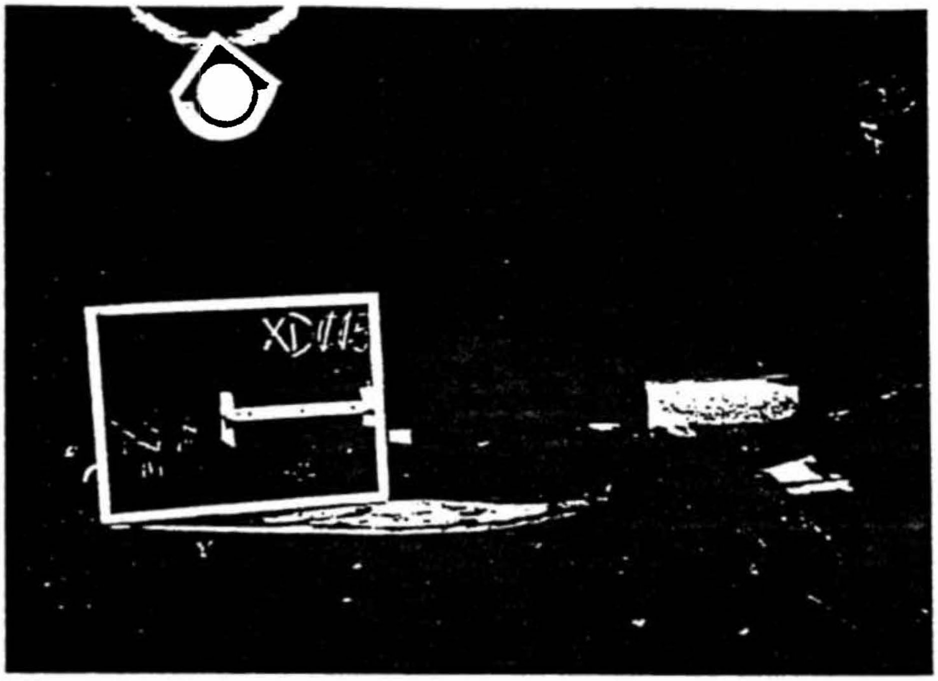
XD004

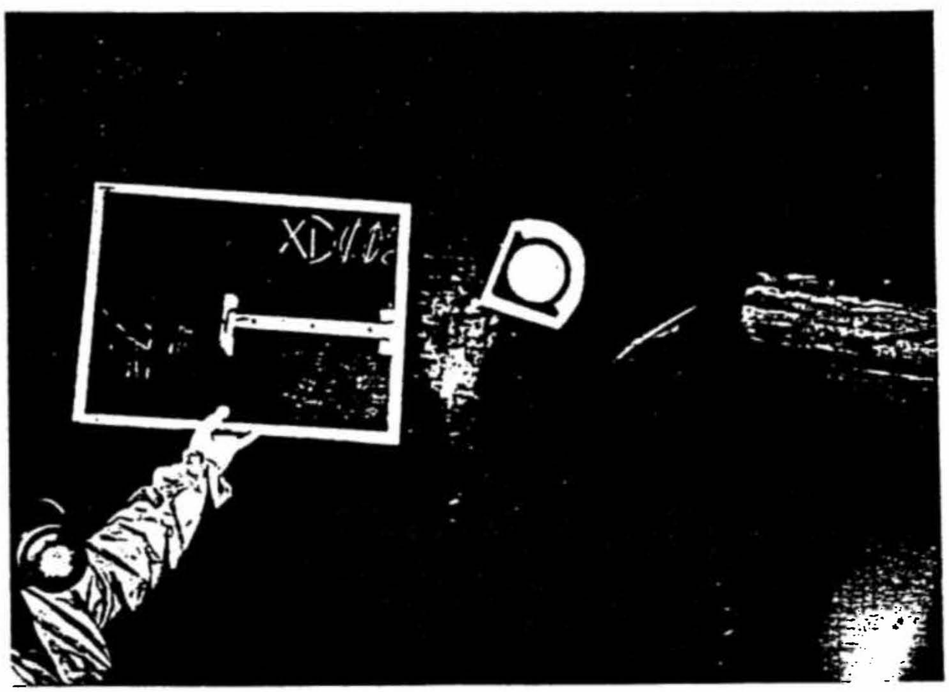
AREA 3
DEBRIS WIPE SAMPLES

Stetson-Harza
A HARZA COMPANY

FILE NO. 0450.046.23F
REVISION DATE 04/05/94

PLATE 17



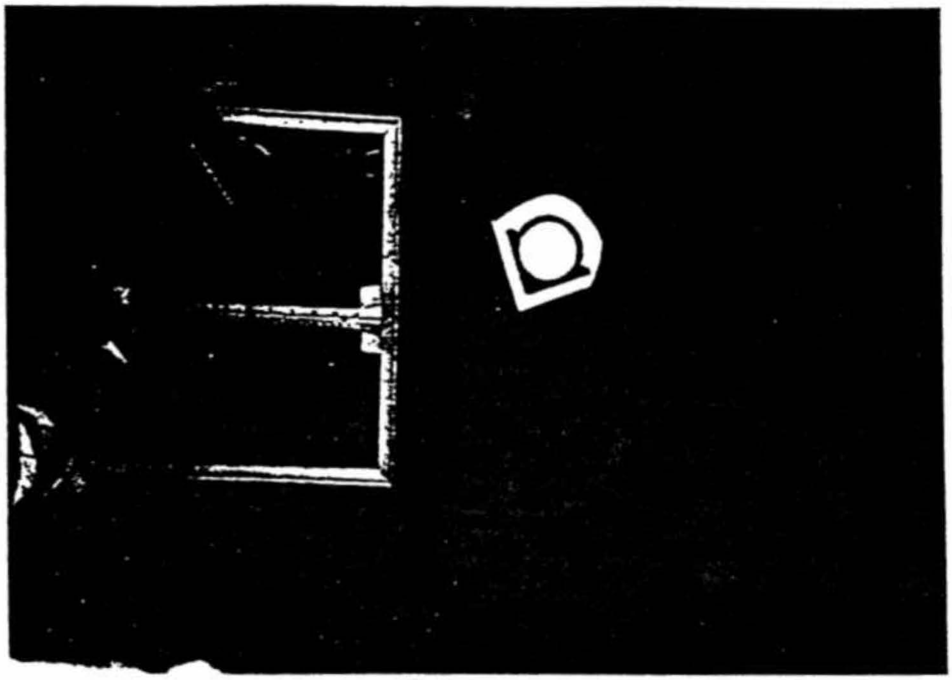


AREA 3
DEBRIS WIPE SAMPLES

Stetson-Harza
A HARZA COMPANY

FILE NO. 0450.046.24F
REVISION DATE 04/05/94

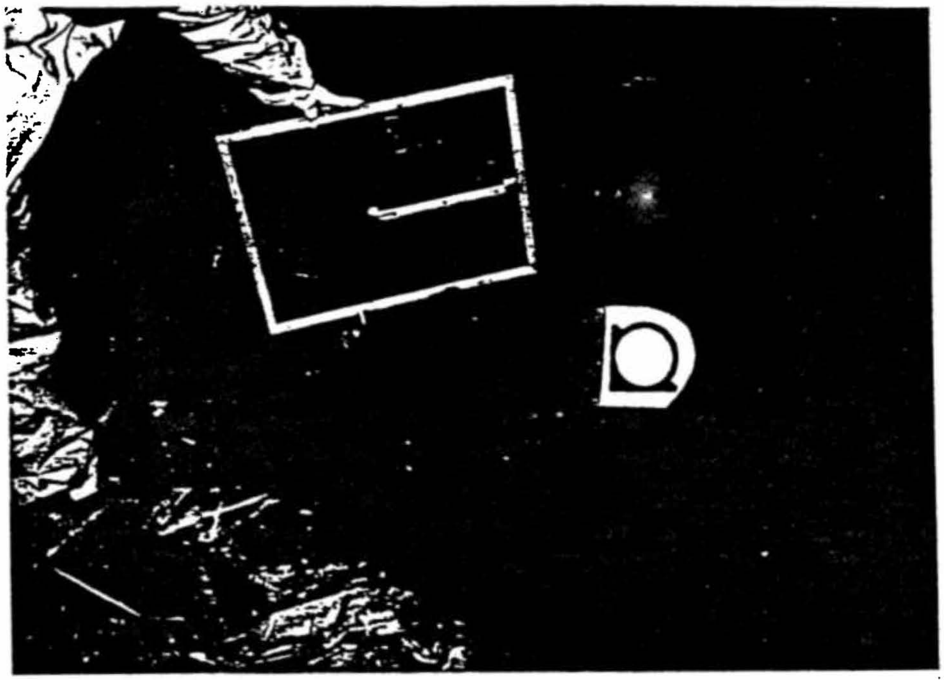
PLATE 19



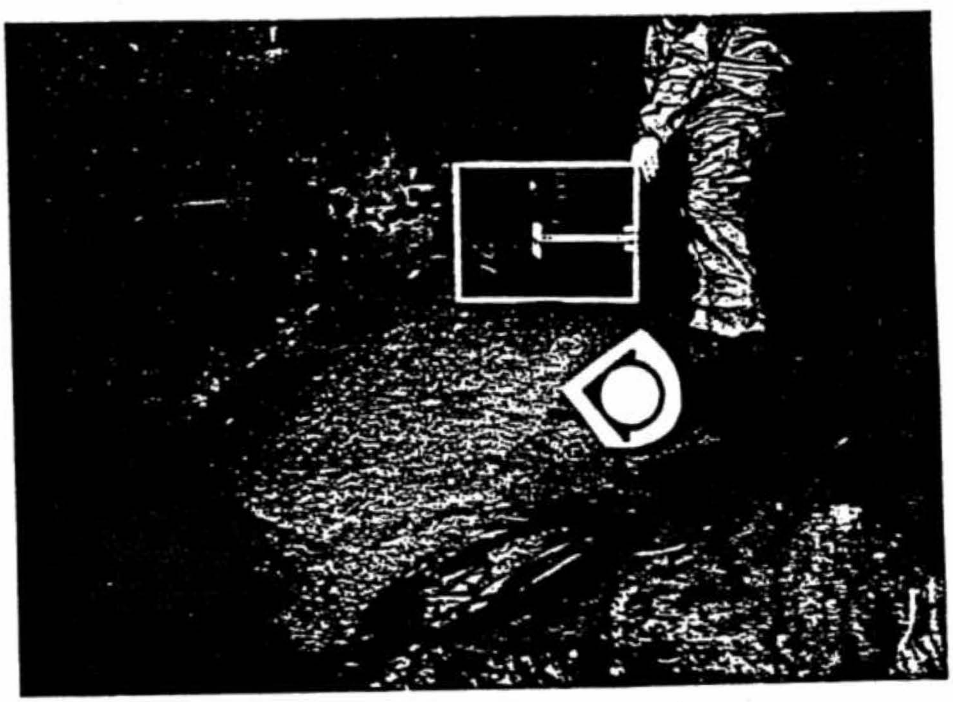
XD0??

AREA 3
DEBRIS WIPE SAMPLES

PLATE 20



BD07B
DARK



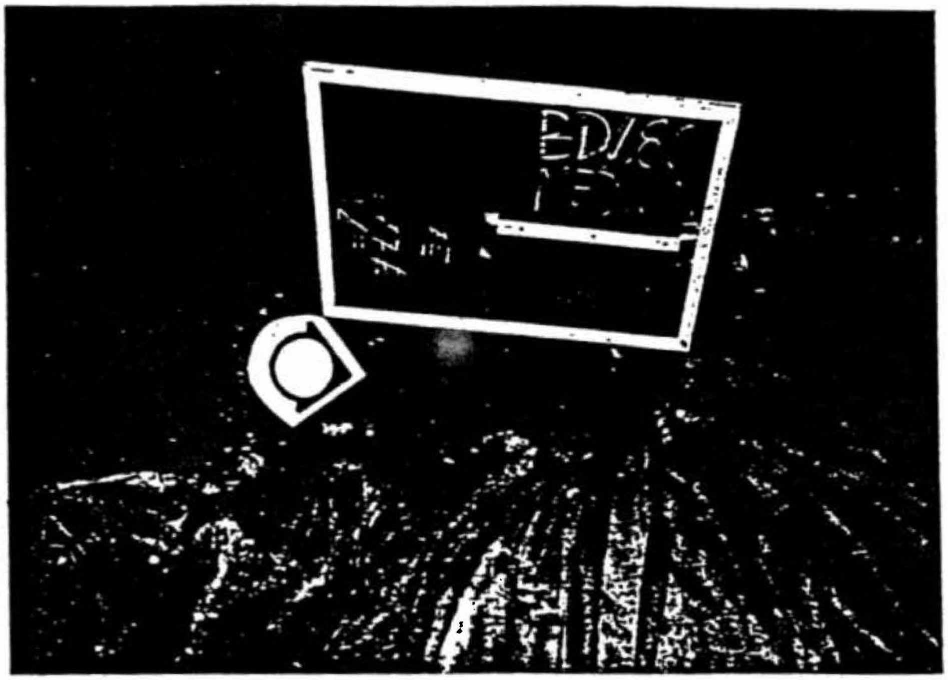
BD07B
LIGHT

AREA 2
BULK DEBRIS SOIL SAMPLES

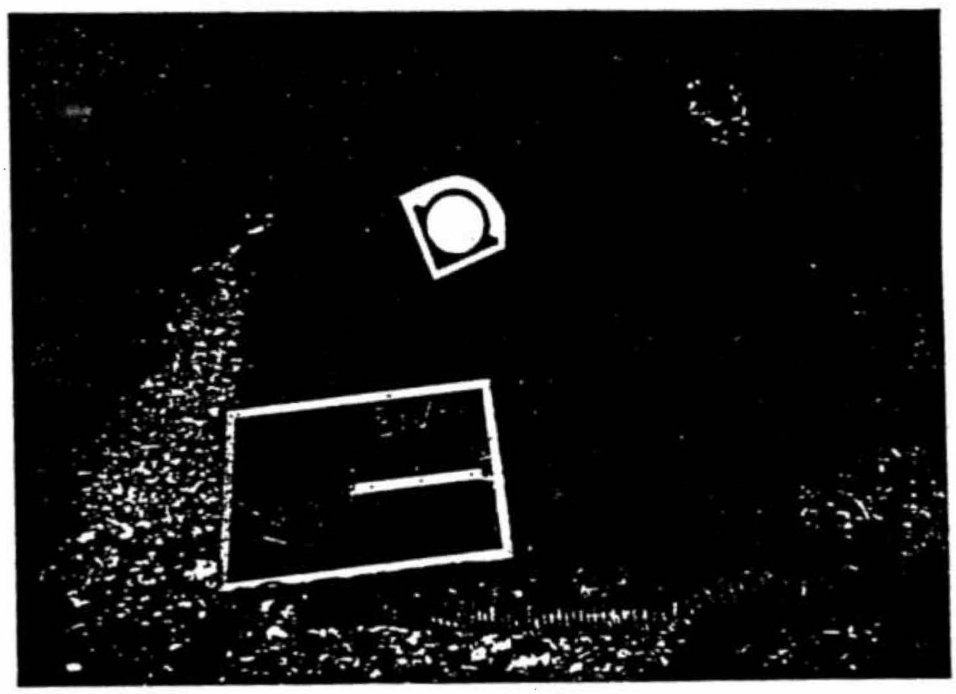
Stetson-Harza
A HARZA COMPANY
181 Genesee Street, Utica, NY 13501 (315) 797-5800
Rensselaer Technology Park
250 Jordan Rd., Troy, NY 12180 (518) 283-6080

FILE NO. 0450.046.27F
REVISION DATE 04/05/94

PLATE 21



BD082
MEDIUM



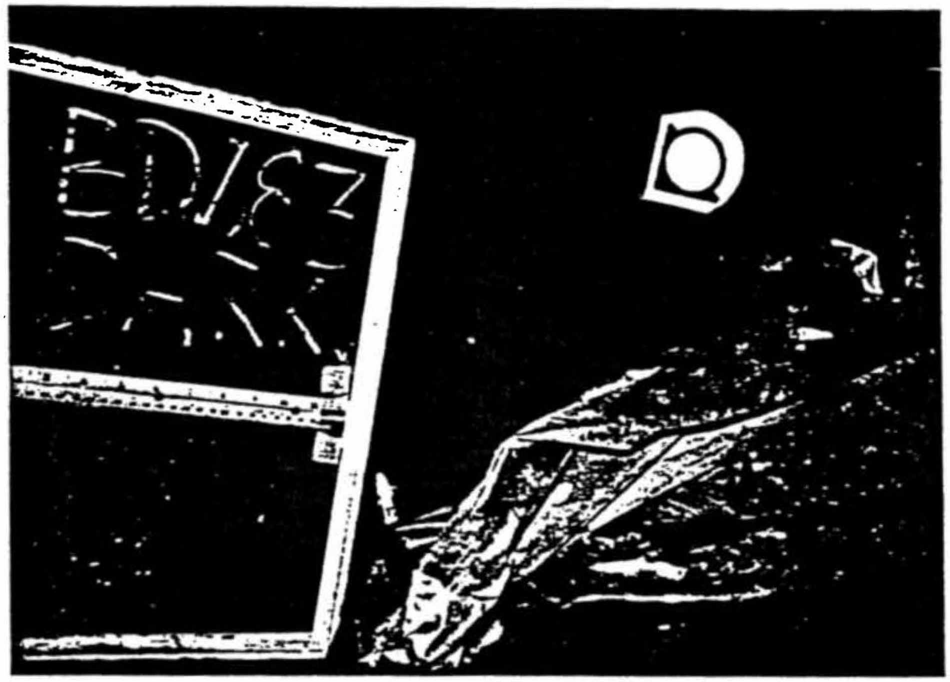
BD082
DEEP

AREA 2
BULK DEBRIS SOIL SAMPLES

Stetson-Harza
A HARZA COMPANY

FILE NO. 0450.046.28F
REVISION DATE 04/05/94

PLATE 22



BD083
DARK

BD084

AREA 2
BULK DEBRIS SOIL SAMPLES

Stetson-Harza
A HARZA COMPANY
181 Genesee Street, Utica, NY 13501 (315) 797-5800
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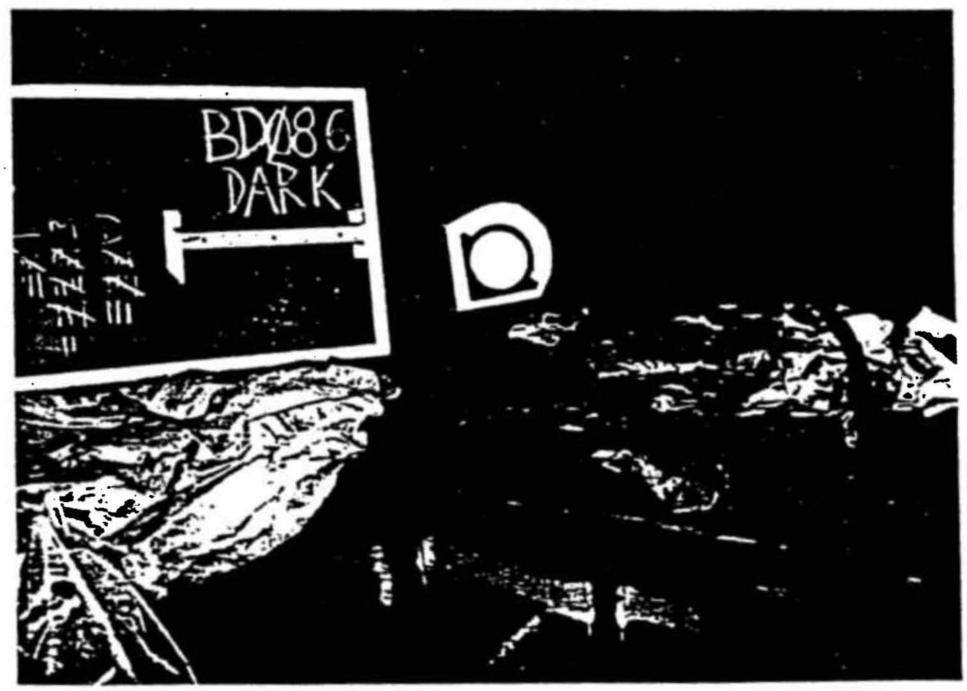
FILE NO. 0450.046.29F
REVISION DATE 04/05/94

PLATE 23

BD085
DARK



BD086
DARK

AREA 2
BULK DEBRIS SOIL SAMPLES

Stetson-Harza
A HARZA COMPANY
181 Genesee Street, Utica, NY 13501 (315) 797-5800
Rensselaer Technology Park
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FILE NO. 0450.046.30F
REVISION DATE 04/05/94

PLATE 24

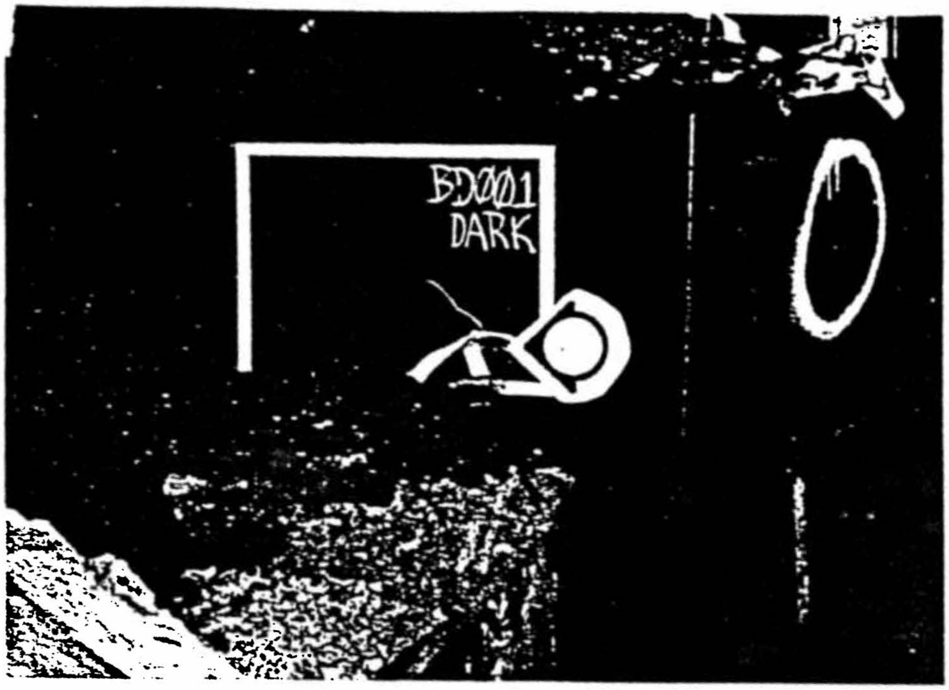
BD087
DARK

AREA 2
BULK DEBRIS SOIL SAMPLES

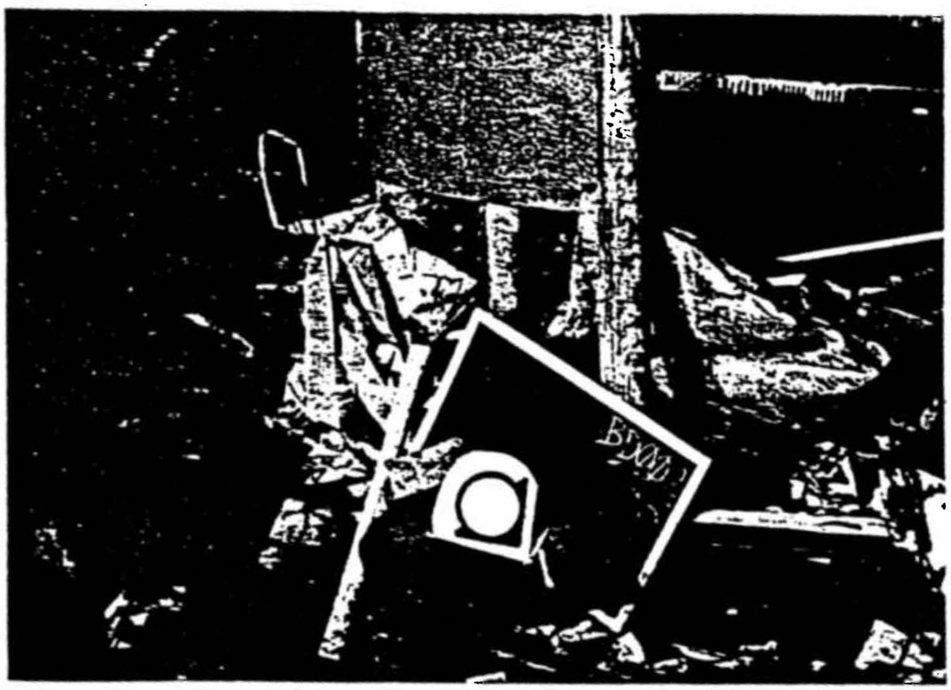
Stetson-Harza
A HARZA COMPANY

FILE NO. 0450.046.31F
REVISION DATE 04/05/94

PLATE 25



BD001
DARK



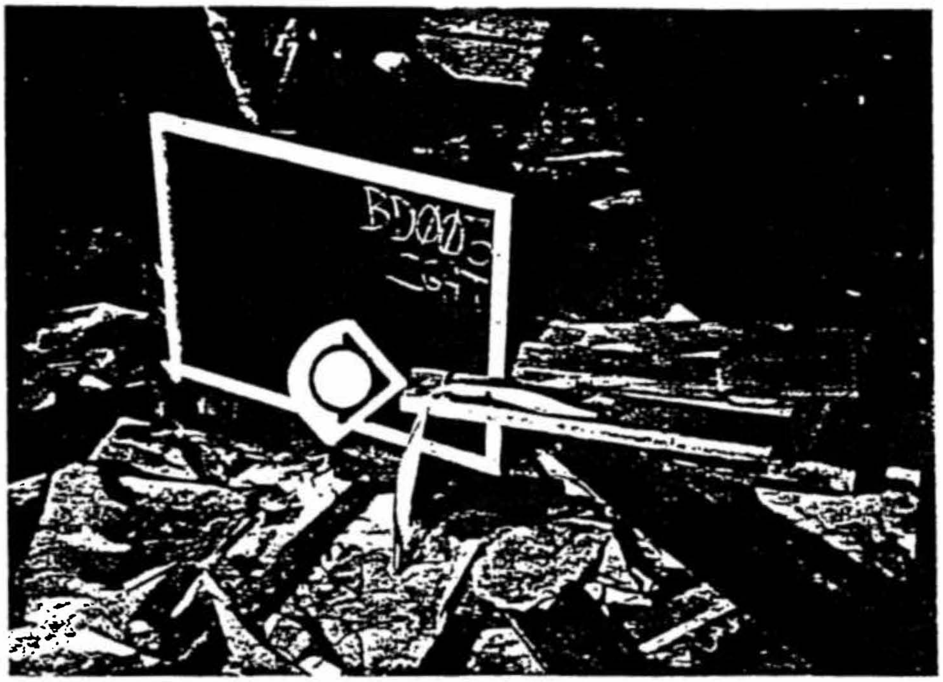
BD002
DARK

AREA 3
BULK DEBRIS WOOD SAMPLES

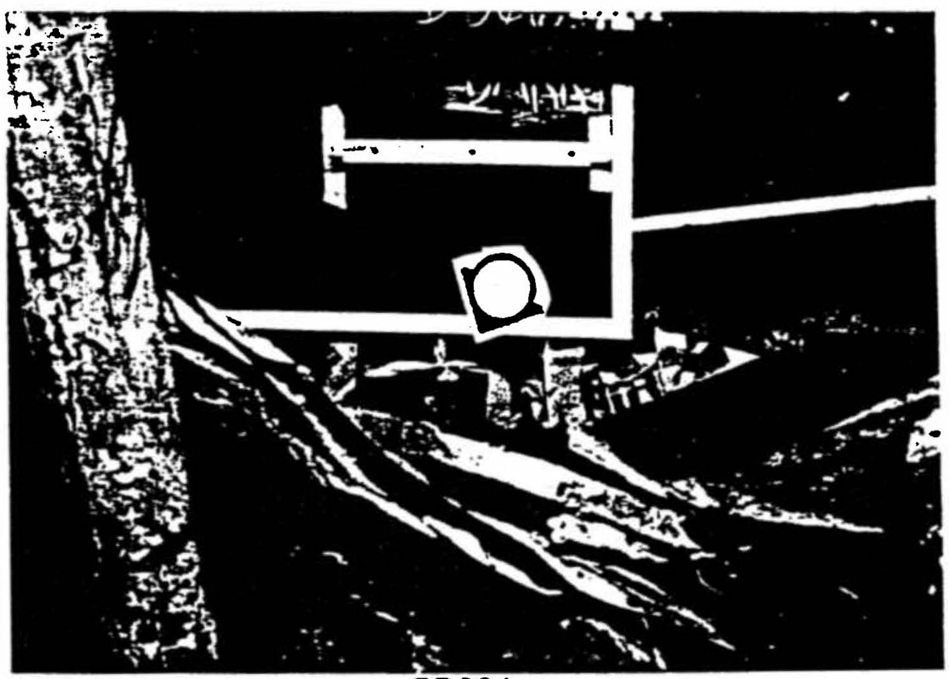
tetson-Harza
A HARZA COMPANY
181 Genesee Street, Utica, NY 13501 (315) 797-5800

FILE NO. 0450.046.32F
REVISION DATE 04/05/94

PLATE 26



BD003
LIGHT



BD004
DARK

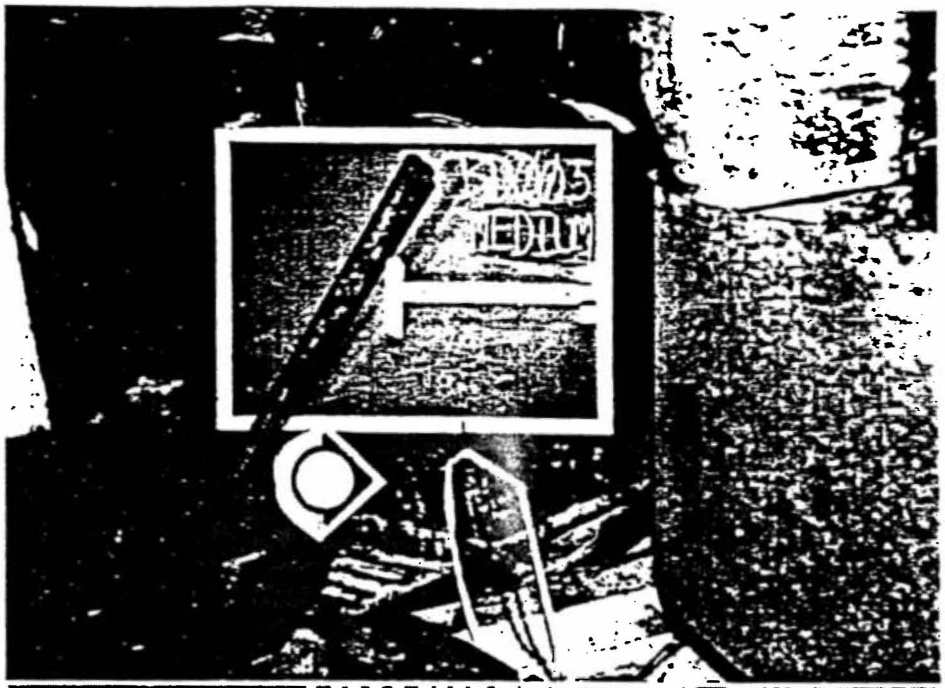
BD004

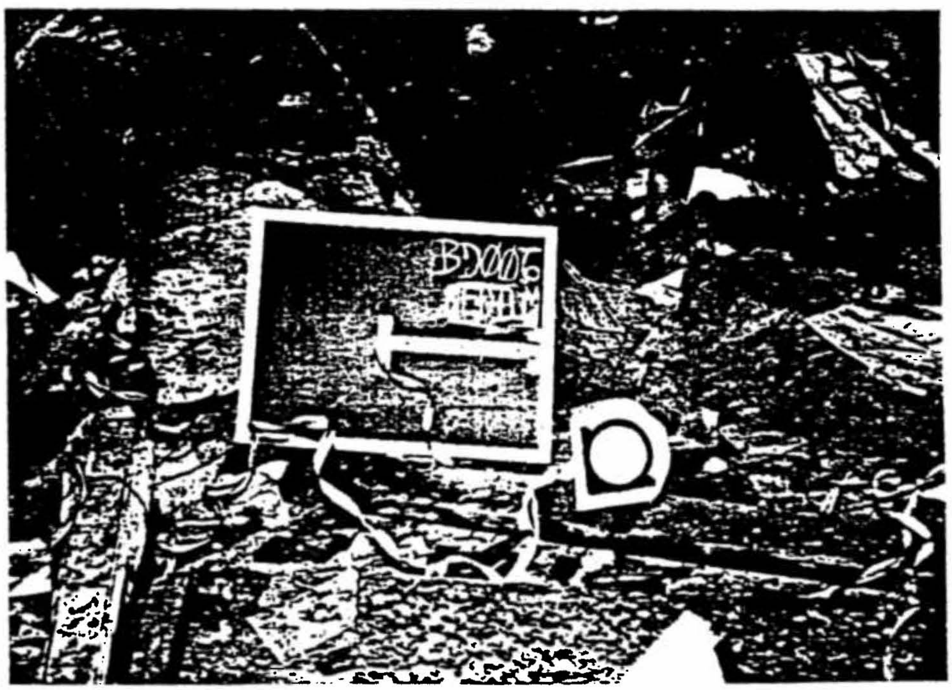
AREA 3
BULK DEBRIS WOOD SAMPLES

Stetson-Harza
A HARZA COMPANY
181 Genesee Street, Utica, NY 13501 (315) 797-5800
Rensselaer Technology Park
250 Jordan Rd., Troy, NY 12180 (518) 283-6080

FILE NO. 0450.046.33F
REVISION DATE 04/05/94

PLATE 27



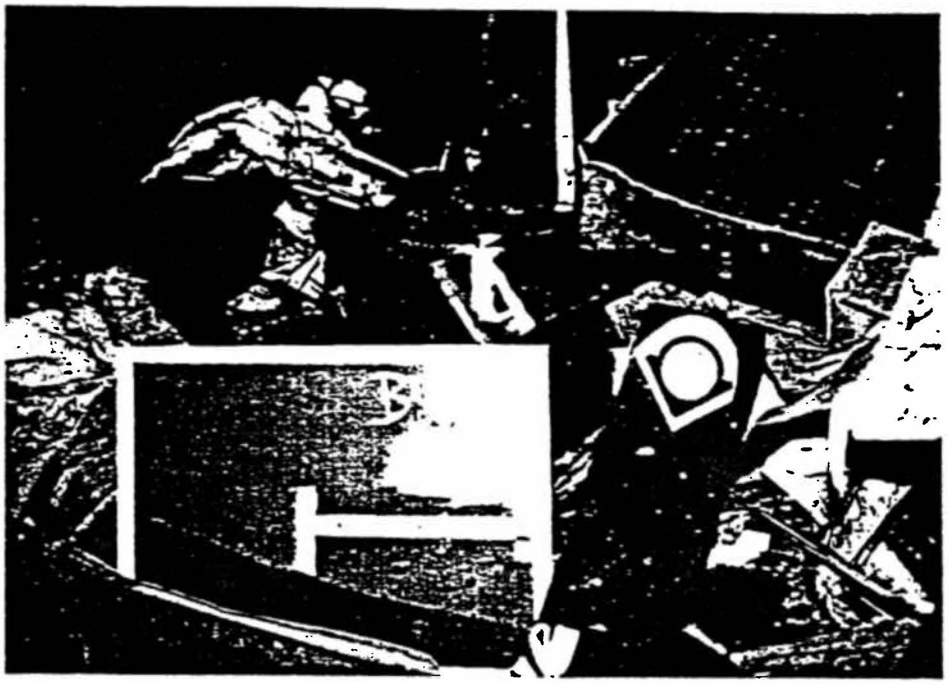


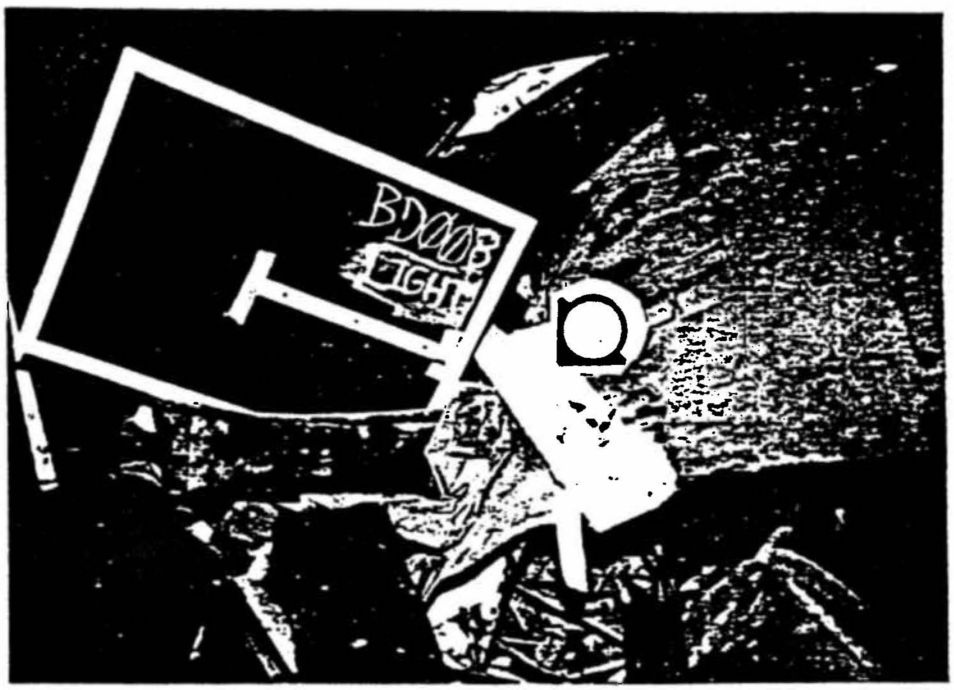
AREA 3
BULK DEBRIS WOOD SAMPLES

Stetson-Harza
A HARZA COMPANY

FILE NO. 0450.046.34F
REVISION DATE 04/05/94

PLATE 28



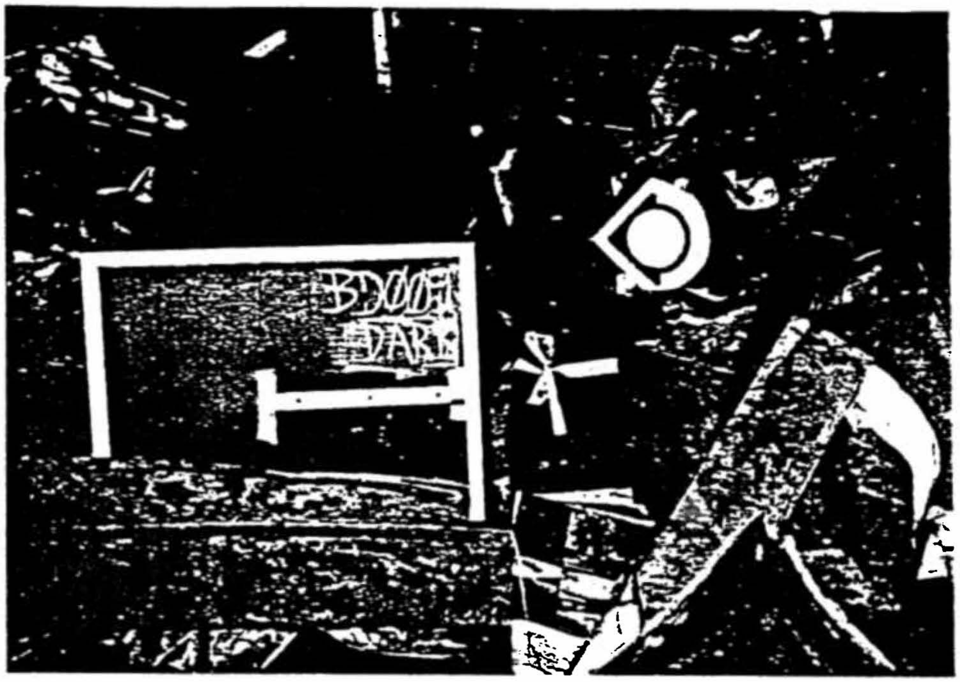


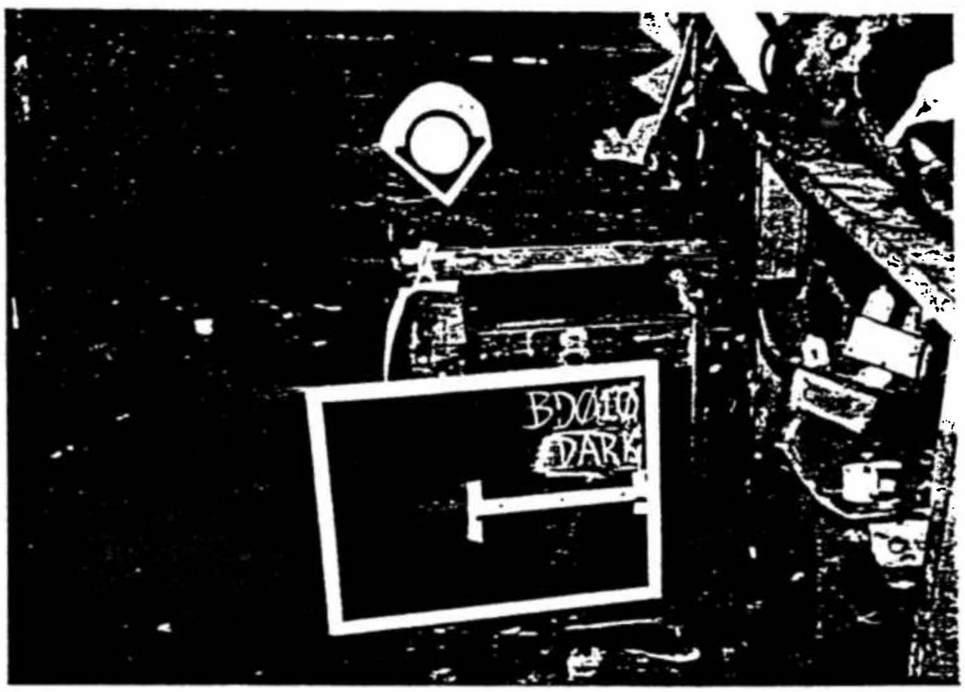
AREA 3
BULK DEBRIS WOOD SAMPLES

Stetson-Harza
A HARZA COMPANY
181 Genesee Street, Utica, NY 13501 (315) 797-5800
Rensselaer Technology Park
250 Jordan Rd., Troy, NY 12180 (518) 283-6000

FILE NO. 0450.046.35F
REVISION DATE 04/05/94

PLATE 29





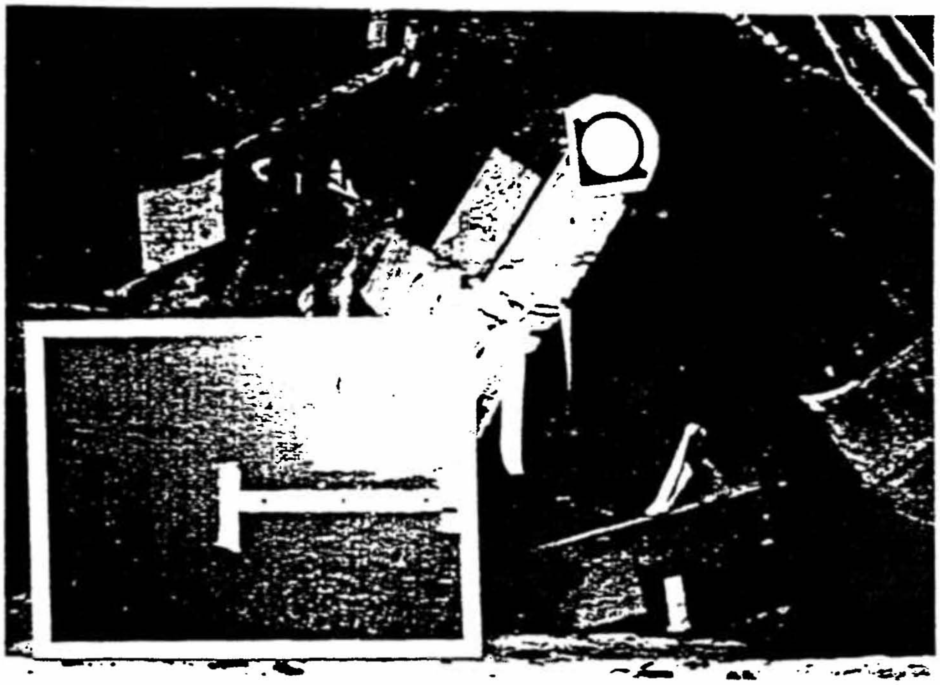
BD010

AREA 3
BULK DEBRIS WOOD SAMPLES

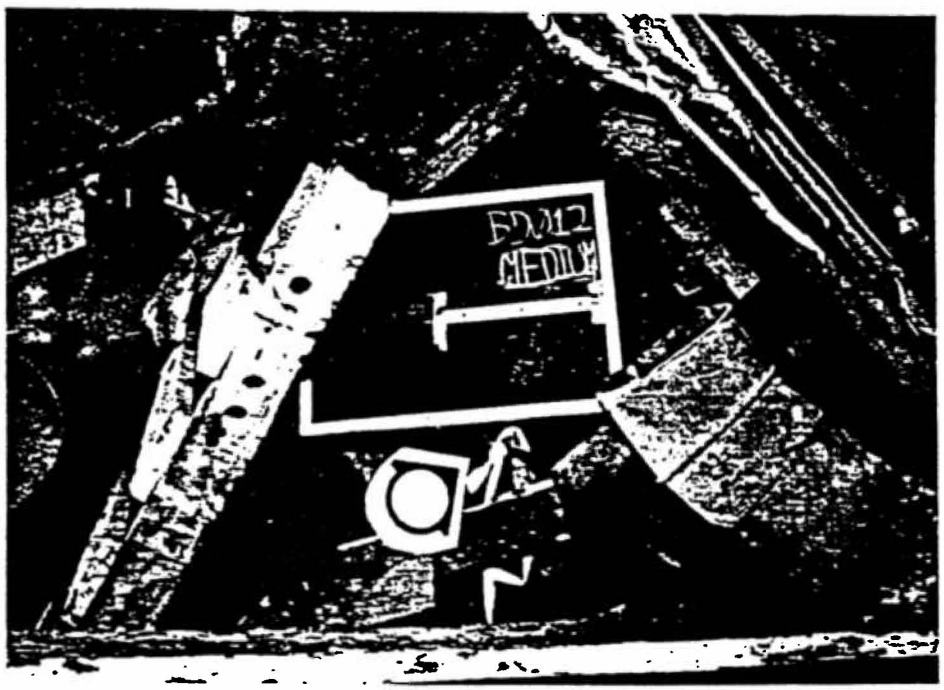
Stetson-Harza
A HARZA COMPANY

FILE NO. 0450.046.36F
REVISION DATE 04/05/94

PLATE 30



BD011
LIGHT



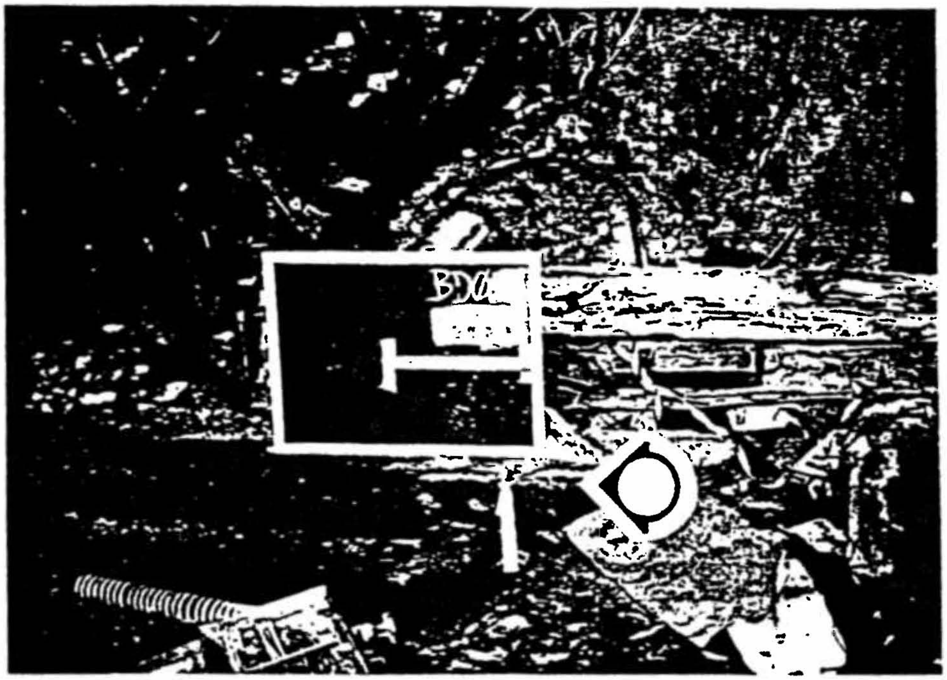
BD012
MEDIUM

AREA 3
BULK DEBRIS WOOD SAMPLES

Stetson-Harza
A HARZA COMPANY
181 Genesee Street, Utica, NY 13501 (315) 797-5800
Rensselaer Technology Park
250 Jordan Rd., Troy, NY 12180 (518) 283-6080

FILE NO. 0450.046.37F
REVISION DATE 04/05/94

PLATE 31



BD013
DARK

BD014
DARK

AREA 3
BULK DEBRIS WOOD SAMPLES

Stetson-Harza
A HARZA COMPANY

FILE. NO. 0450.046.38F
REVISION DATE 04/05/94

PLATE 32

AREA 3
BULK DEBRIS WOOD SAMPLES

Stetson-Harza
A HARZA COMPANY

FILE NO. 0450.046.39F
REVISION DATE 04/05/94

BOS - 1.4104

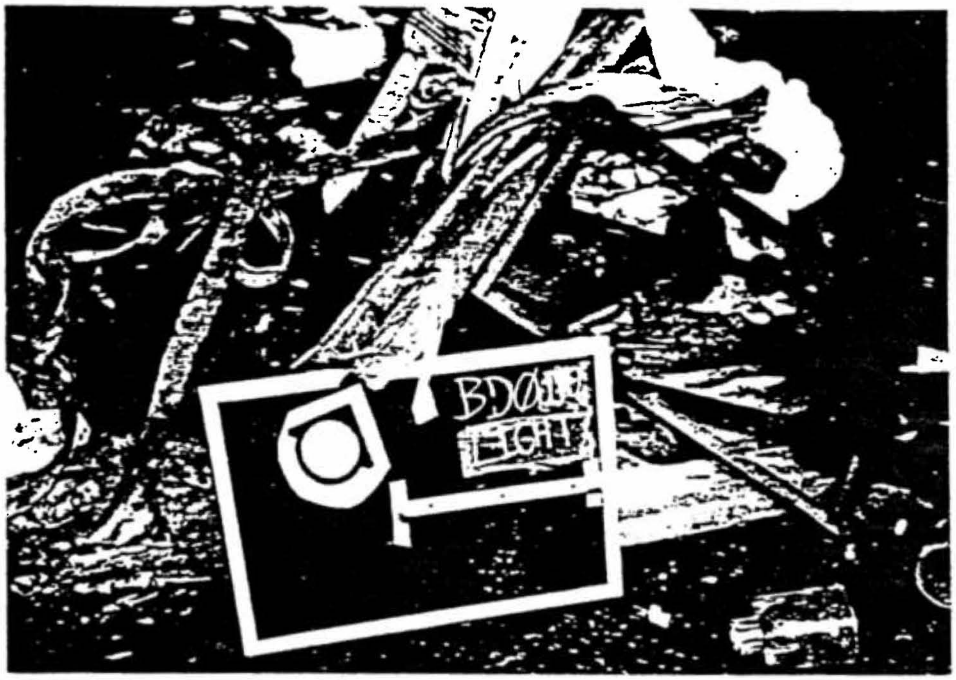
PLATE 33

AREA 3
BULK DEBRIS WOOD SAMPLES

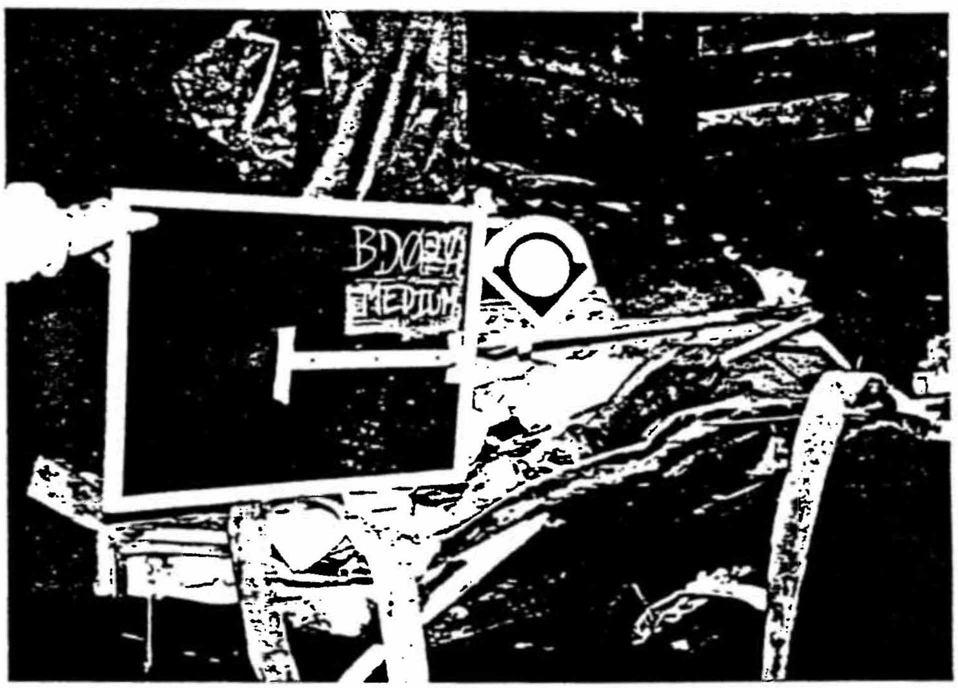
Stetson-Harza
A HARZA COMPANY

FILE NO. 0450.046.40F
REVISION DATE 04/05/94

PLATE 34



BD019
LIGHT



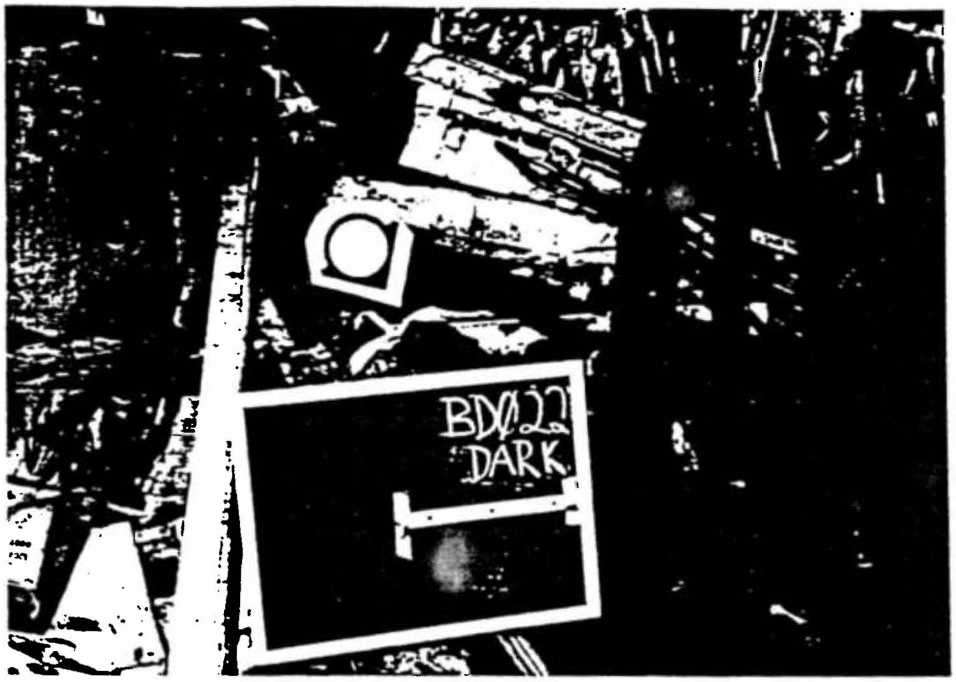
BD020
MEDIUM

AREA 3
BULK DEBRIS WOOD SAMPLES

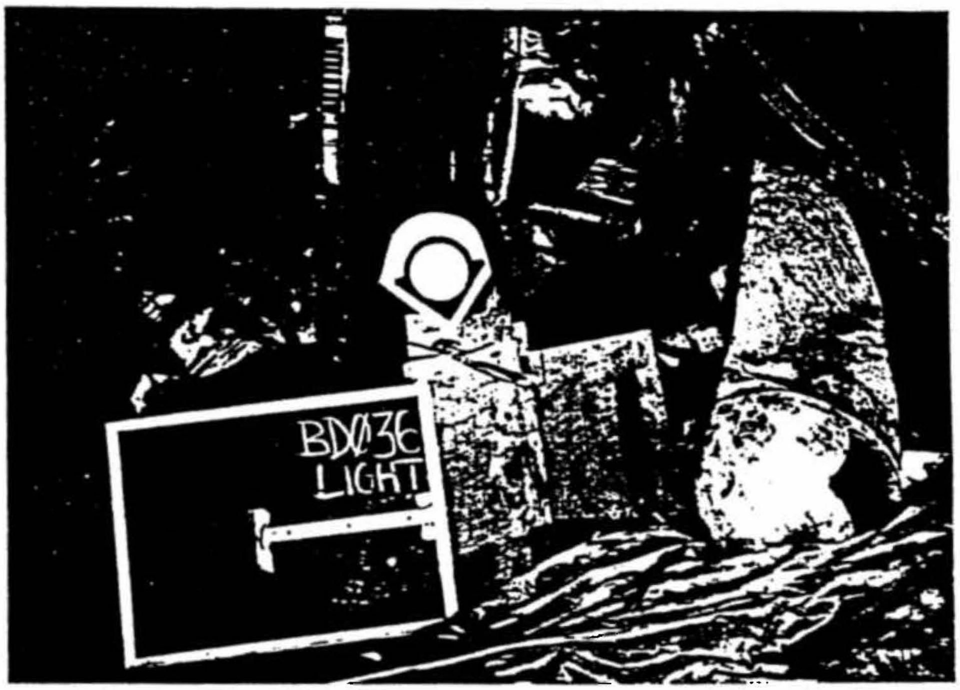
Stetson-Harza
A HARZA COMPANY
181 Genesee Street, Utica, NY 13501 (315) 797-5800
[illegible]
250 [illegible] Rd., Troy, NY [illegible]

FILE NO. 0450.046.41F
REVISION DATE 04/05/94

PLATE 35



BD022
DARK



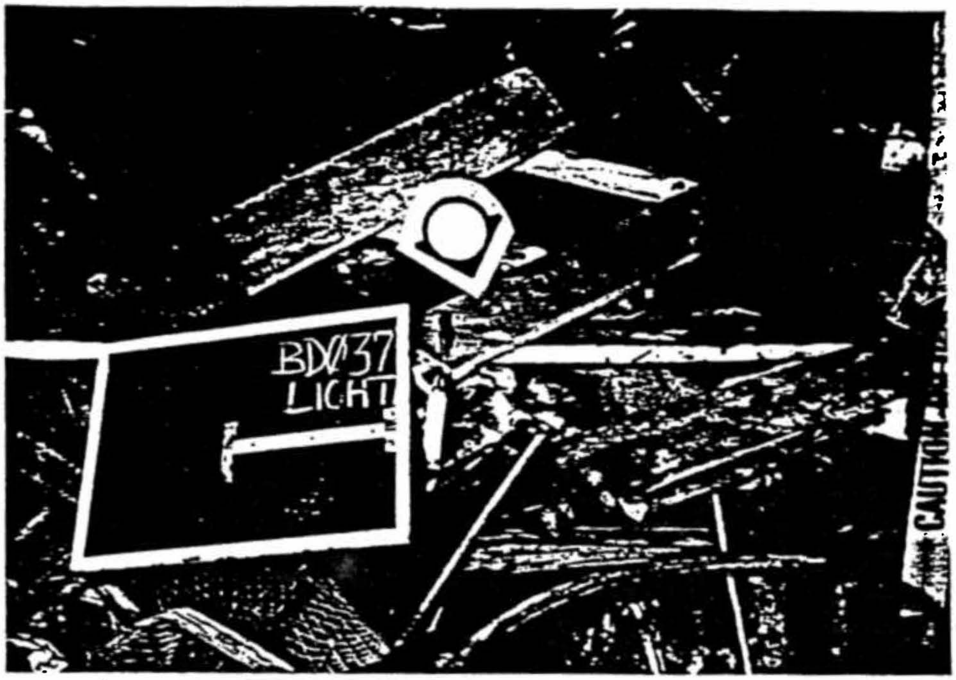
BD036
LIGHT

AREA 3
BULK DEBRIS WOOD SAMPLES

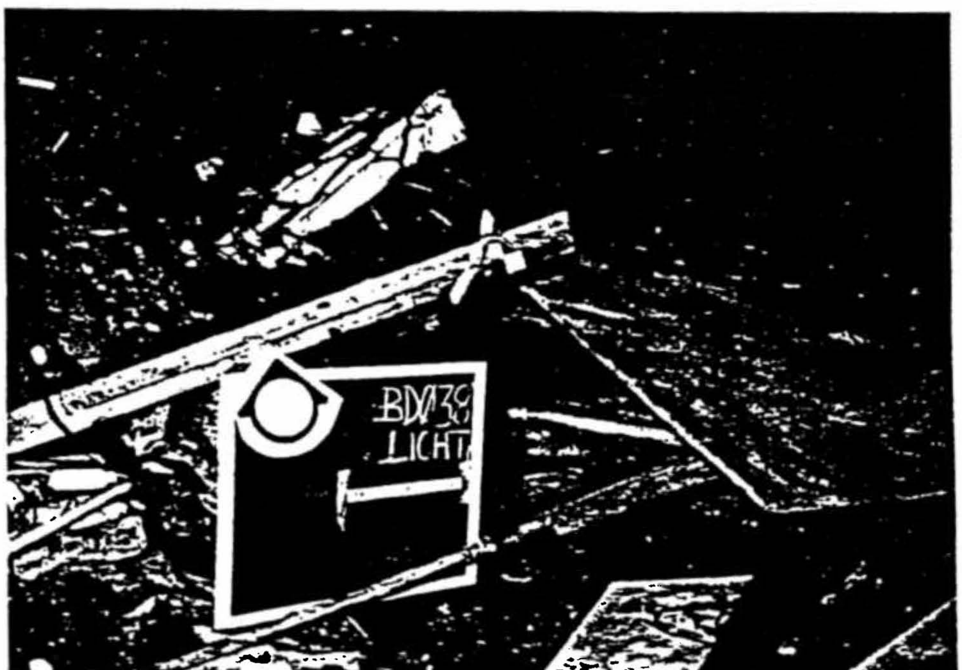
Stetson-Harza
A HARZA COMPANY
181 Genesee Street, Utica, NY 13501 (315) 797-5800
Rensselaer Technology Park
250 Jordan Rd., Troy, NY 12180 (518) 283-6080

FILE NO. 0450.046.42F
REVISION DATE 04/05/94

PLATE 36



BD037
LIGHT



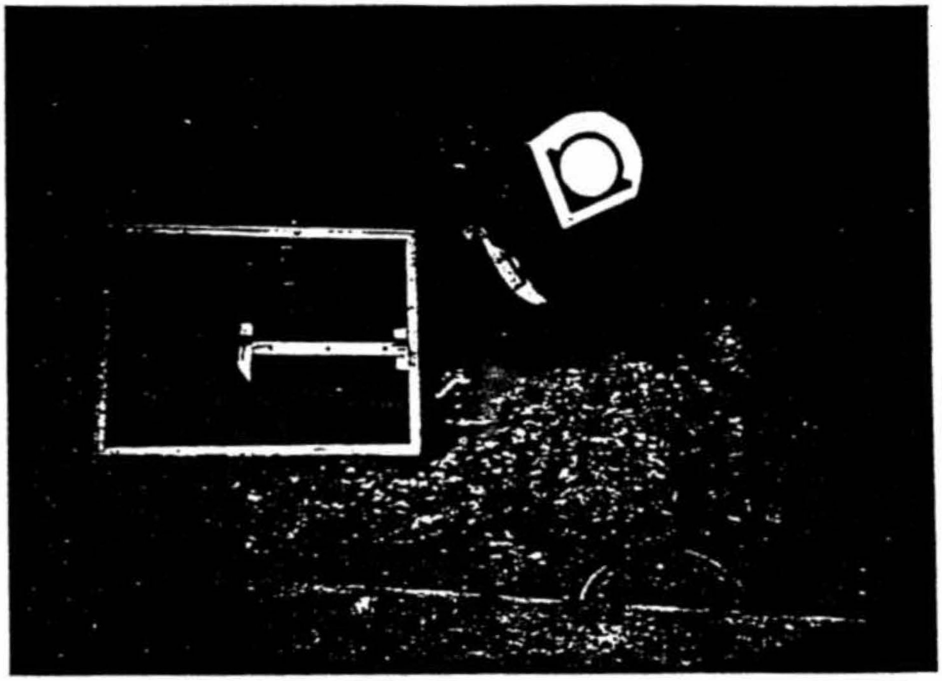
BD038
LIGHT

AREA 3
BULK DEBRIS WOOD SAMPLES

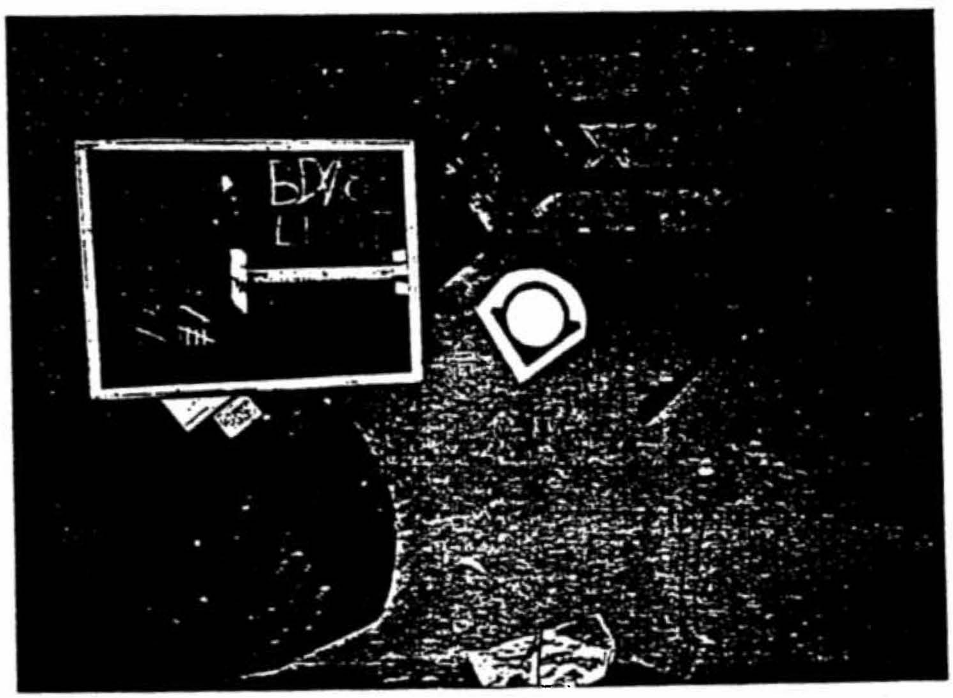
Stetson-Harza
A HARZA COMPANY
181 Genesee Street, Utica, NY 13501 (315) 797-5800
Rensselaer Technology Park
250 Jordan Rd., Troy, NY 12180 (518) 283-8080

FILE NO. 0450.046.43F
REVISION DATE 04/05/94

PLATE 37



BDO81
MEDIUM



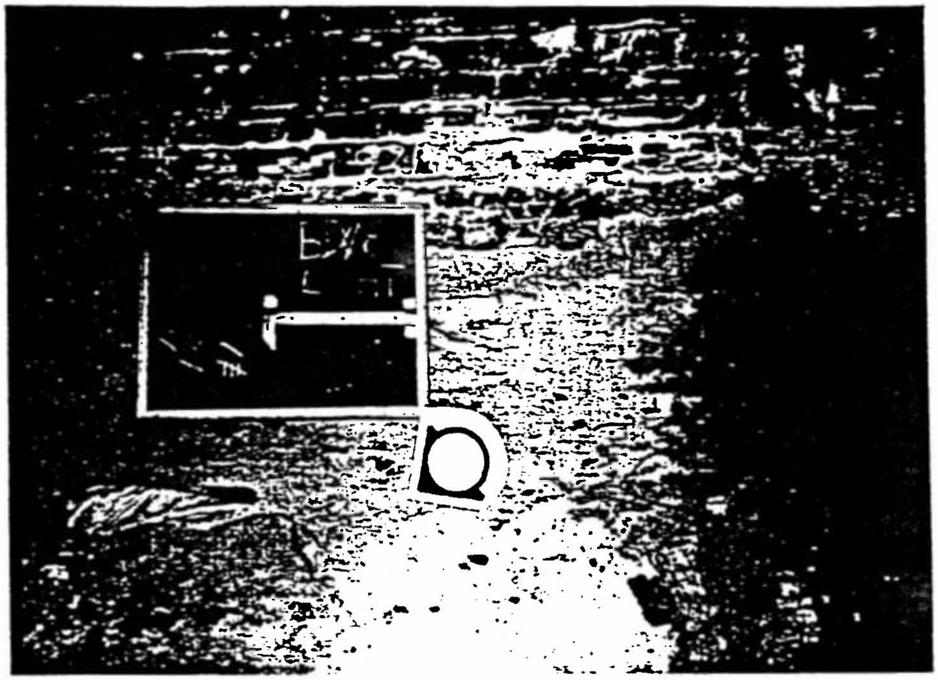
BDO88
LIGHT

AREA 3
BULK DEBRIS SOIL SAMPLES

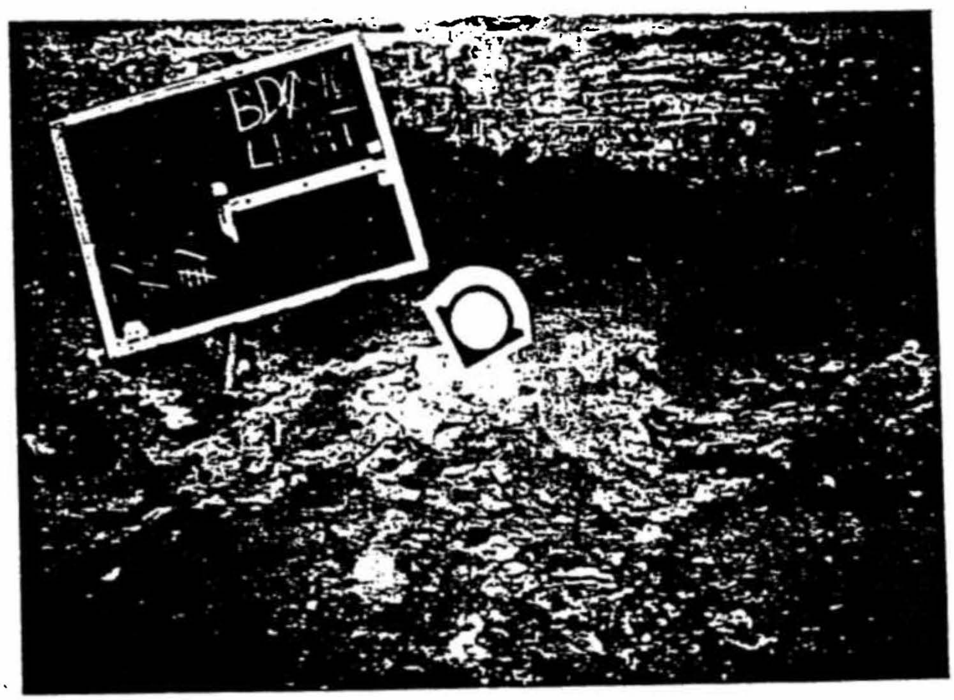
Stetson-Harza
A HARZA COMPANY
181 Genesee Street, Utica, NY 13501 (315) 797-5800
Rensselaer Technology Park
250 Jordan Rd., Troy, NY 12180 (518) 283-6080

FILE NO. 0450.046.44F
REVISION DATE 04/05/94

PLATE 38



BD039
LIGHT



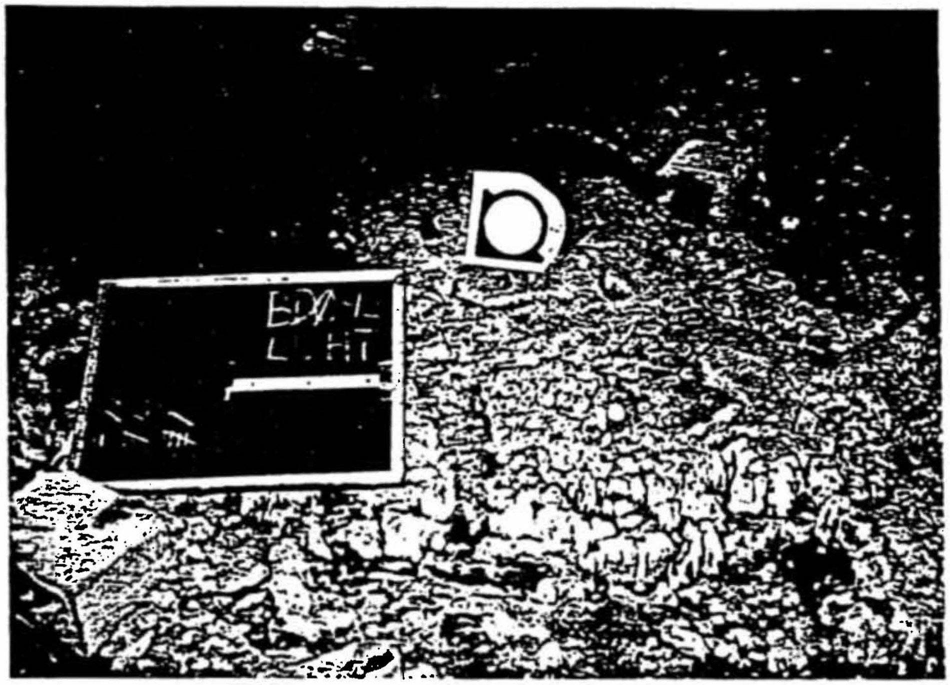
BD0[illegible]
LIGHT

AREA 3
BULK DEBRIS SOIL SAMPLES

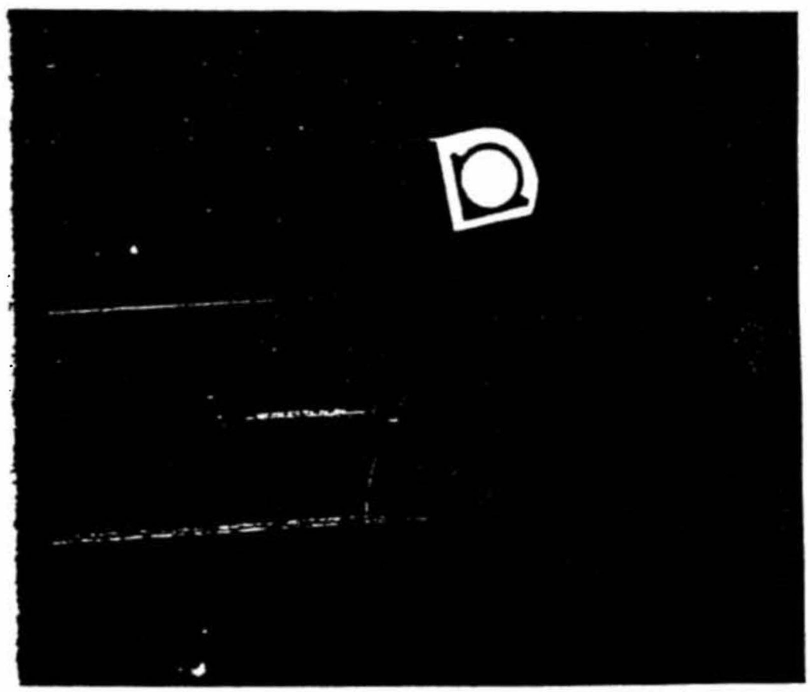
Stetson-Harza
A HARZA COMPANY
181 Genesee Street, Utica, NY 13501 (315) 797-5800
Rensselaer Technology Park
250 Jordan Rd., Troy, NY 12180 (518) 283-6080

FILE NO. 0450.046.45F
REVISION DATE 04/05/94

PLATE 39



BD071
LIGHT



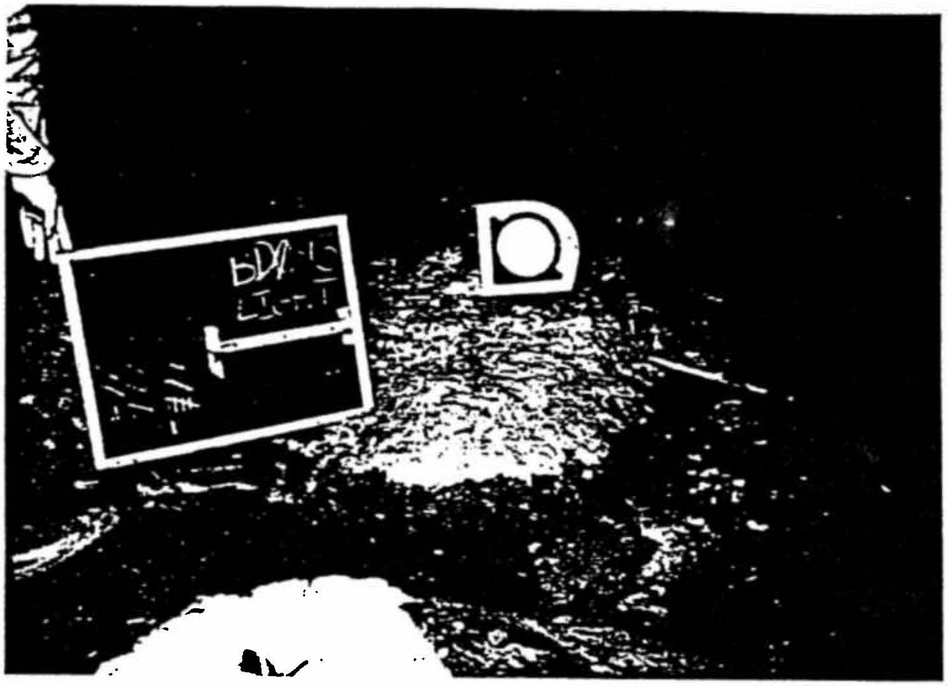
BD072
DARK

AREA 3
BULK DEBRIS SOIL SAMPLES

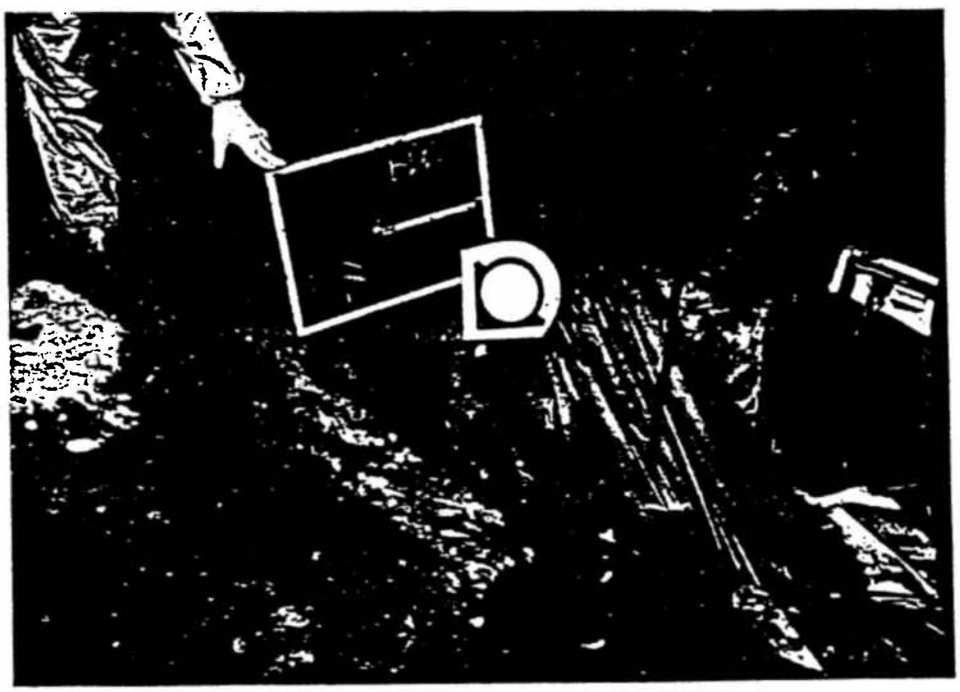
Stetson-Harza
A HARZA COMPANY
181 Genesee Street, Utica, NY 13501 (315) 797-5800
Rensselaer Technology Park
250 Jordan Rd., Troy, NY 12180 (518) 283-6080

FILE NO. 0450.046.46F
REVISION DATE 04/05/94

PLATE 40



BD093
LIGHT



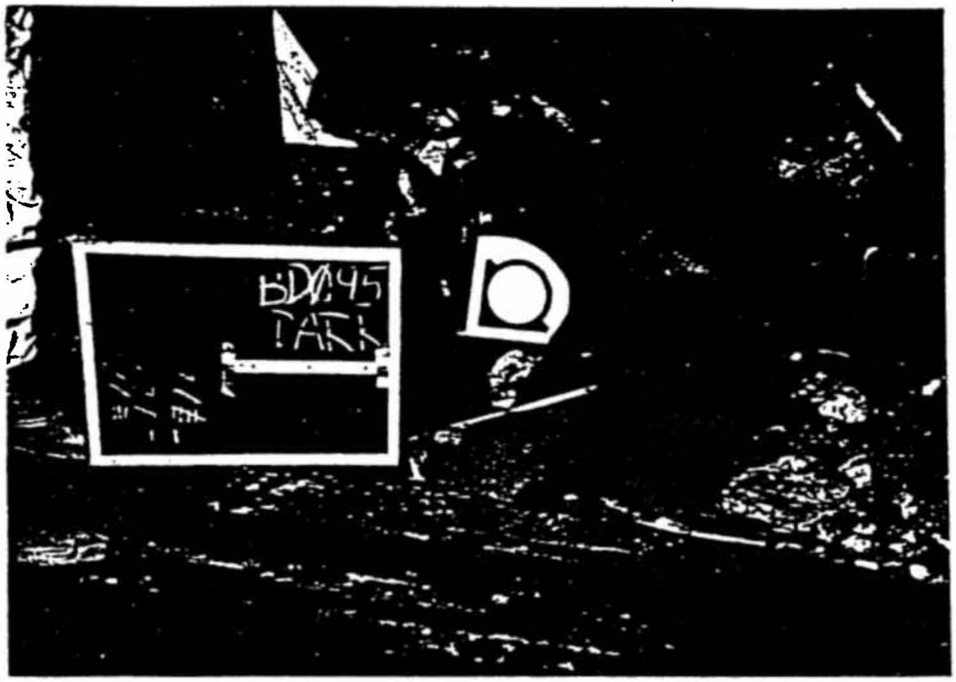
BD 094

AREA 3
BULK DEBRIS SOIL SAMPLES

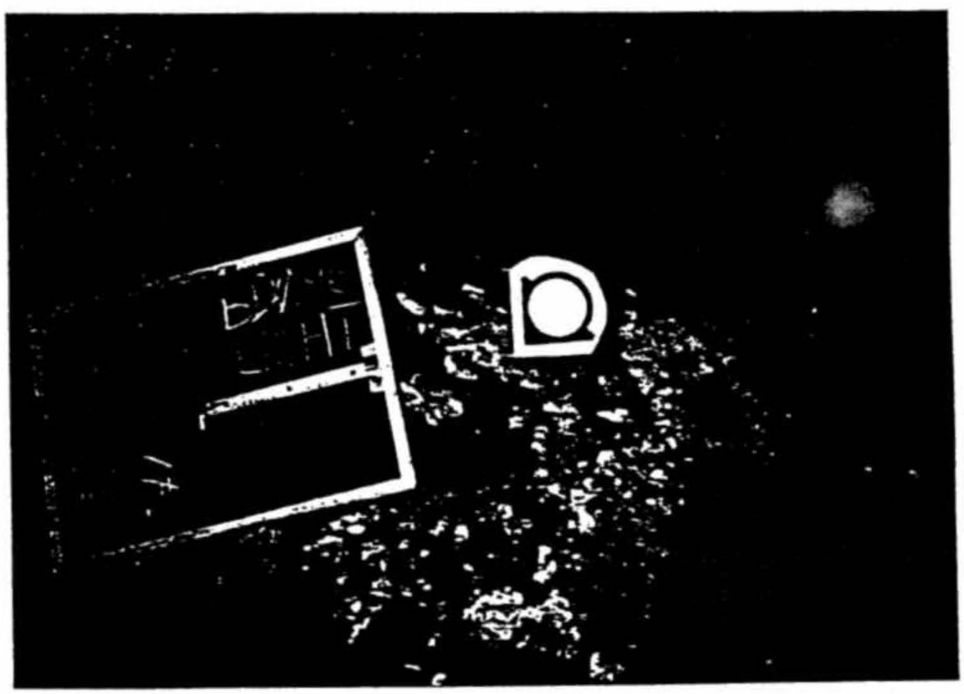
Stetson-Harza
A HARZA COMPANY
181 Genesee Street, Utica, NY 13501 (315) 797-5800
Rensselaer Technology Park
250 Jordan Rd., Troy, NY 12180 (518) 283-6080

FILE NO. 0450.046.47F
REVISION DATE 04/05/94

PLATE 41



BD 075
DARK



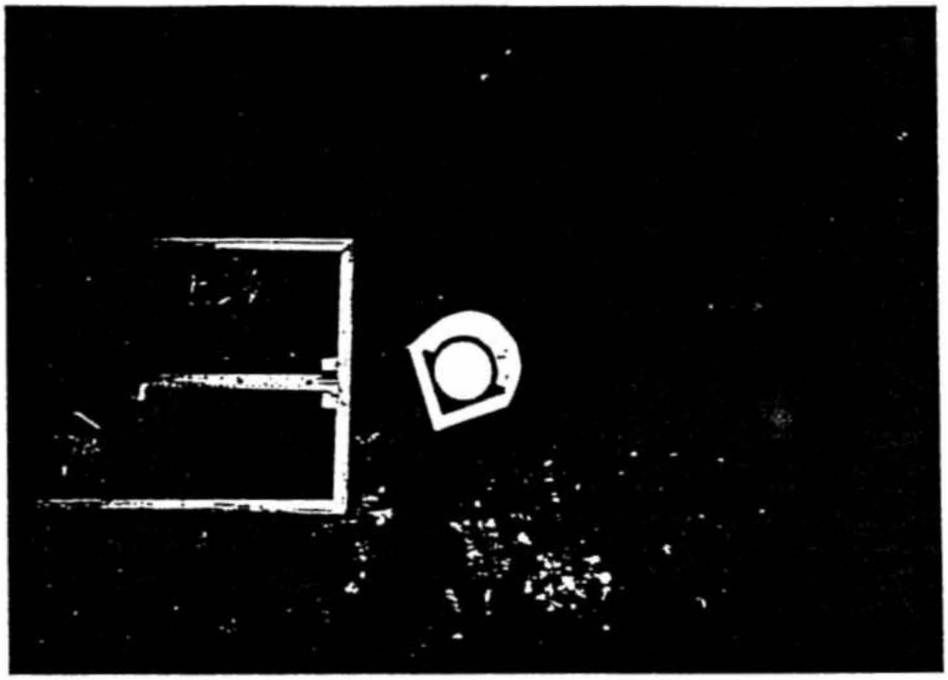
BD 016
LIGHT

AREA 3
BULK DEBRIS SOIL SAMPLES

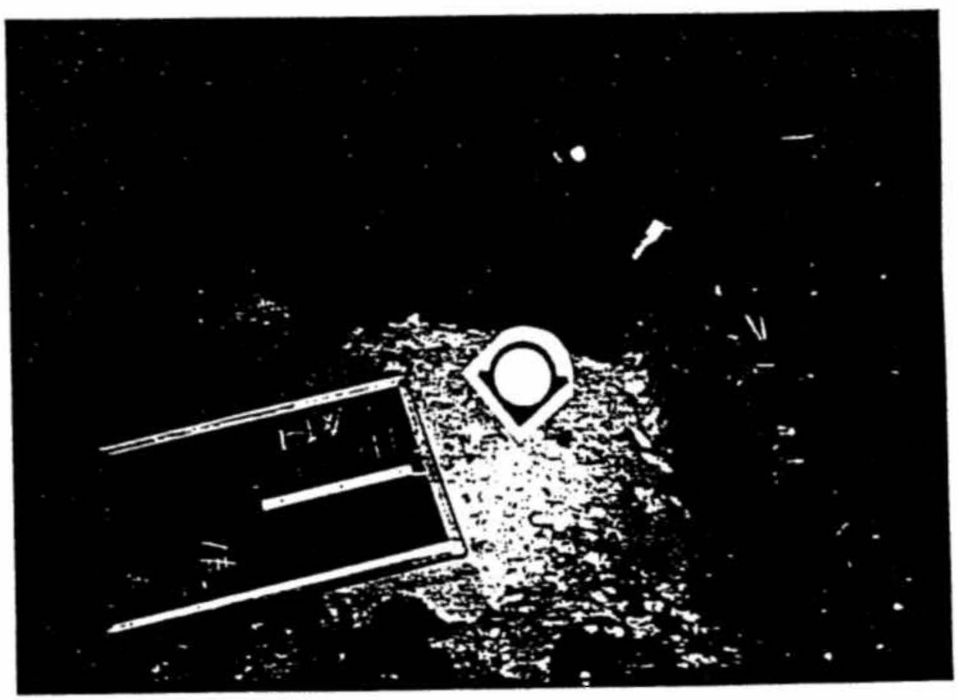
Stetson-Harza
A HARZA COMPANY
181 Genesee Street, Utica, NY 13501 (315) 797-5800
Rensselaer Technology Park
250 Jordan Rd., Troy, NY 12180 (518) 283-6080

FILE NO. 0450.046.48F
REVISION DATE 04/05/94

PLATE 42



BD097
MEDIUM



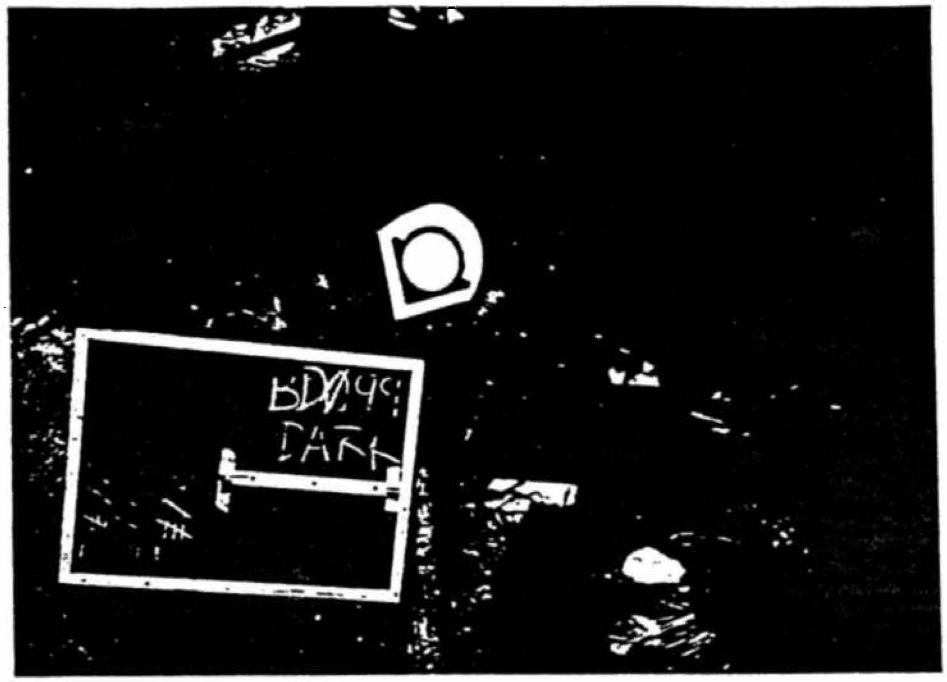
BD098
LIGHT

AREA 3
BULK DEBRIS SOIL SAMPLES

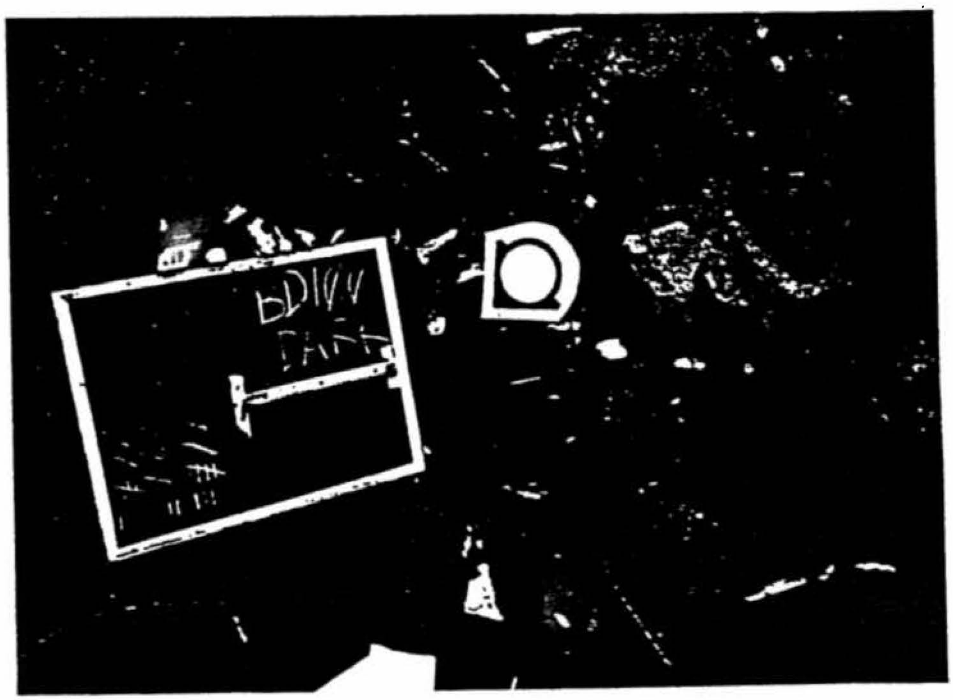
Stetson-Harza
A HARZA COMPANY
181 Genesee Street, Utica, NY 13501 (315) 797-5800
Rensselaer Technology Park
250 Jordan Rd., Troy, NY 12180 (518) 283-6050

FILE NO. 0450.046.49F
REVISION DATE 04/05/94

PLATE 43



BD099
DAFL

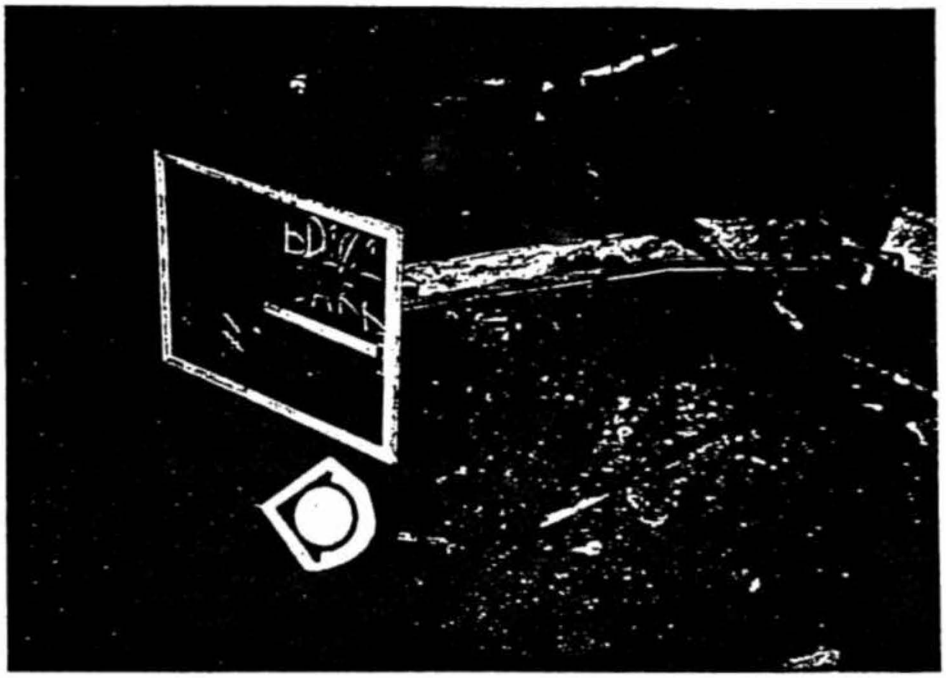


BD100
DAFL

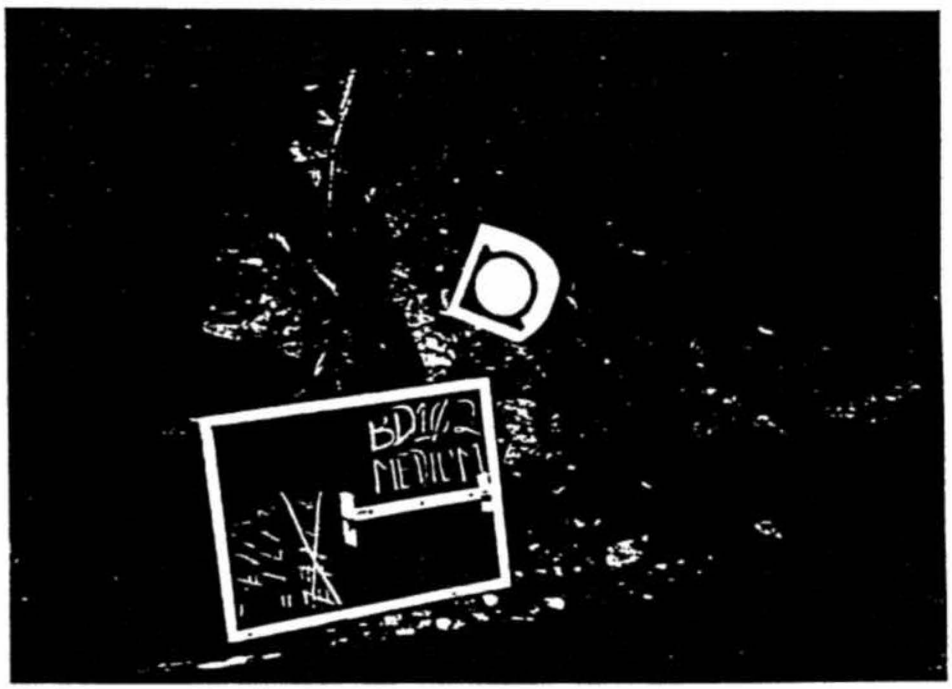
AREA 3
BULK DEBRIS SOIL SAMPLES

Stetson-Harza
A HARZA COMPANY
181 Genesee Street, Utica, NY 13501 (315) 797-5800
Rensselaer Technology Park
250 Jordan Rd., Troy, NY 12180 (518) 283-8080

FILE NO. 0450.046.50F
REVISION DATE 04/05/94



BD101



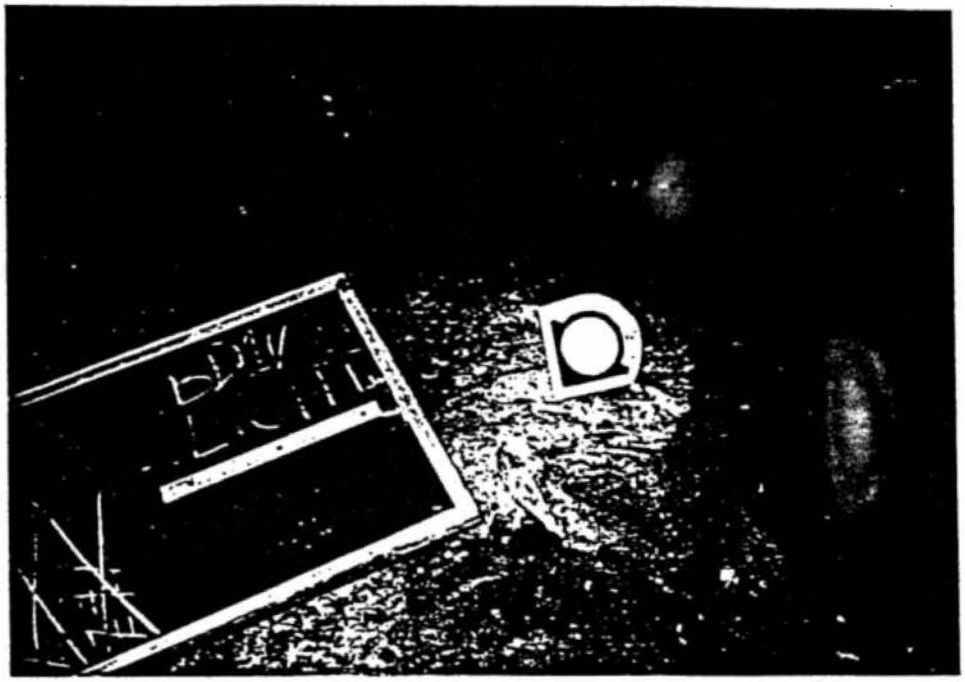
BD102

AREA 3
BULK DEBRIS SOIL SAMPLES

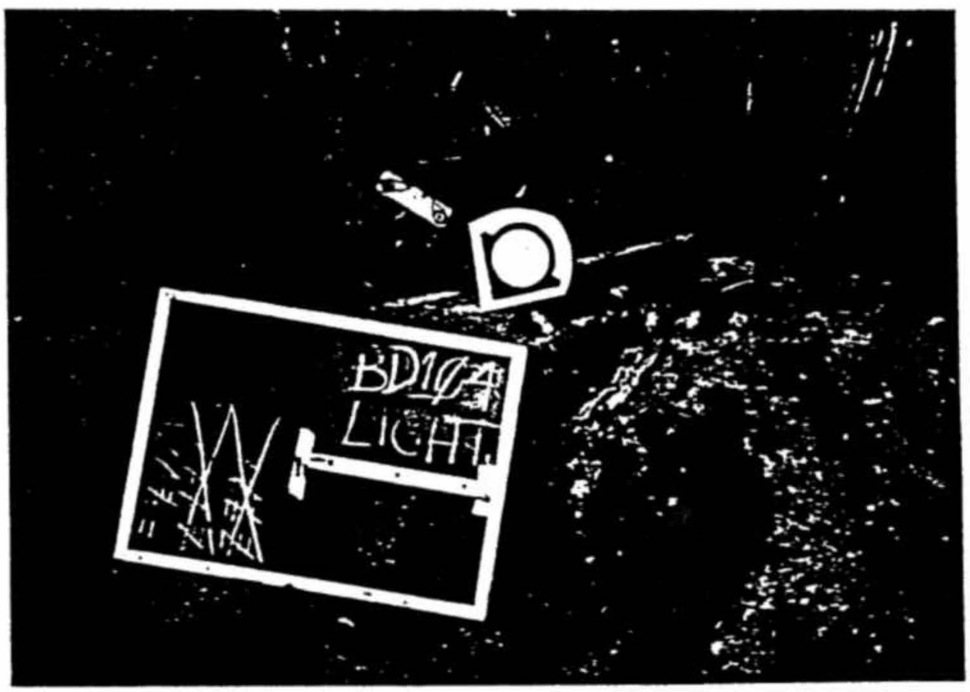
Stetson-Harza
A HARZA COMPANY
181 Genesee Street, Utica, NY 13501 [illegible]
Rensselaer Technology Park
250 Jordan Rd., Troy, NY 12180 [illegible]

FILE NO. 0450.046.51F
REVISION DATE 04/05/94

PLATE 45



BD103
LIGHT



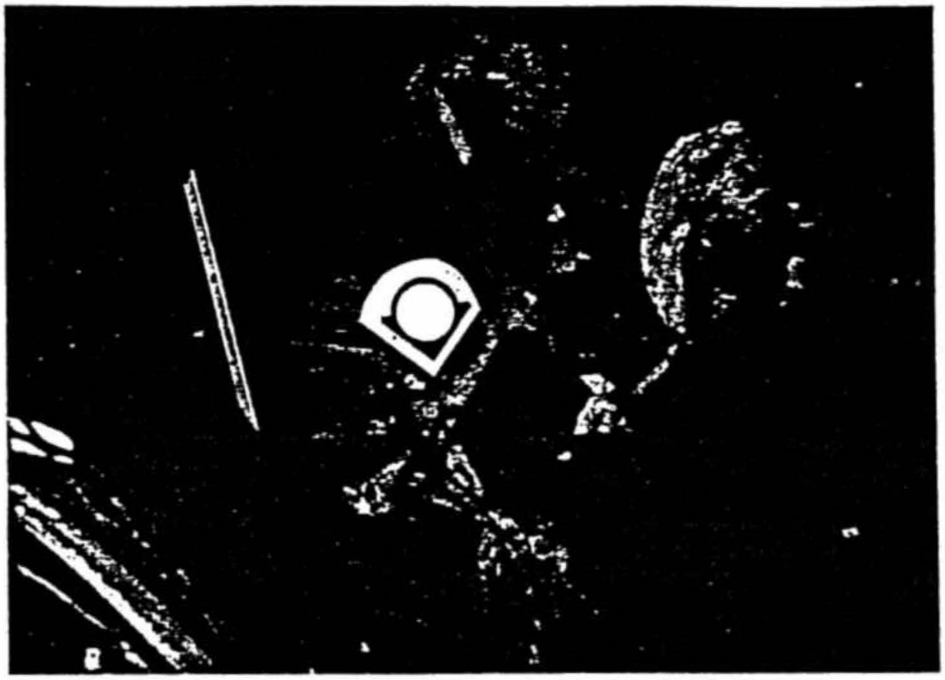
BD104
LIGHT

AREA 3
BULK DEBRIS SOIL SAMPLES

Stetson-Harza
A HARZA COMPANY
181 Genesee Street, Utica, NY 13501 (315) 797-5800
Rensselaer Technology Park
250 Jordan Rd., Troy, NY 12180 (518) 283-5080

FILE NO. 0450.046.52F
REVISION DATE 04/05/94

PLATE 46



BD105
LIGHT

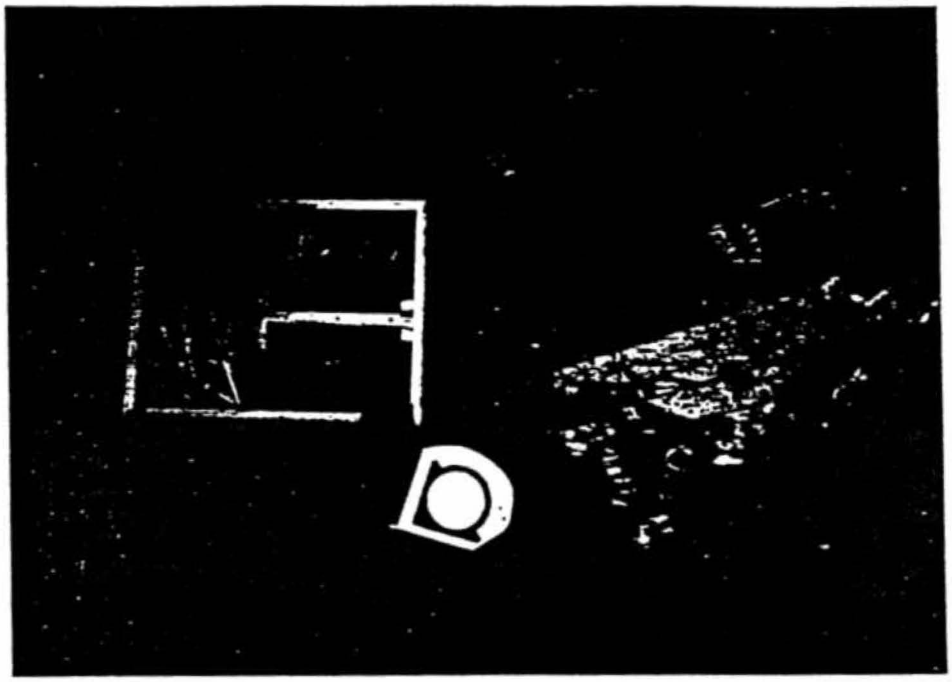
BD106
LIGHT

AREA 3
BULK DEBRIS SOIL SAMPLES

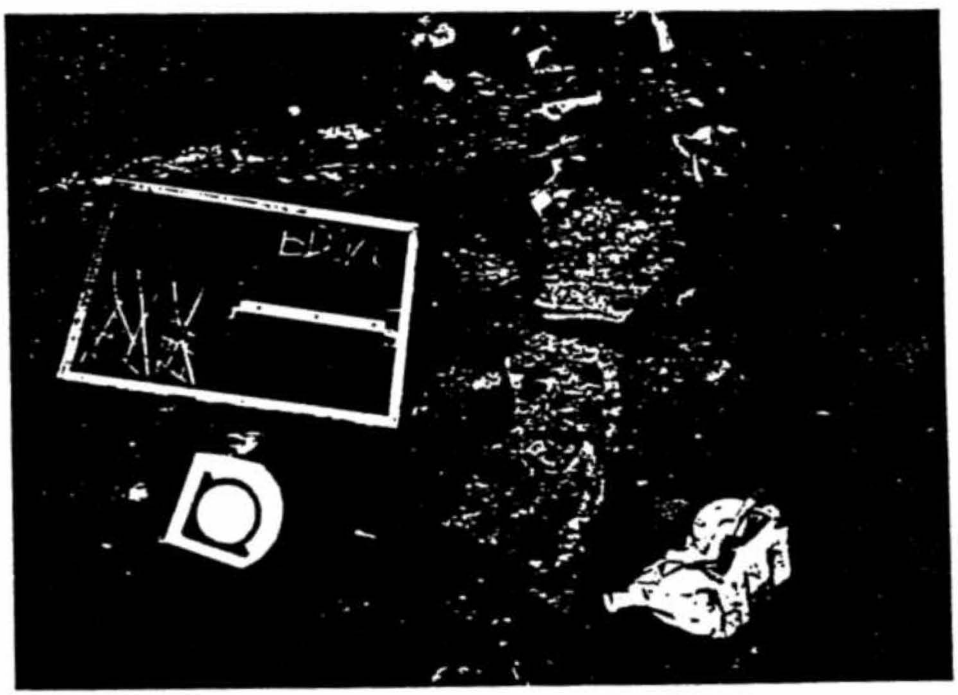
Stetson-Harza
A HARZA COMPANY
181 Genesee Street, Utica, NY 13501 (315) 797-5800
Rensselaer Technology Park
250 Jordan Rd., Troy, NY 12180 (518) 283-6080

FILE NO. 0450.046.53F
REVISION DATE 04/05/94

PLATE 47



BD107



BD108

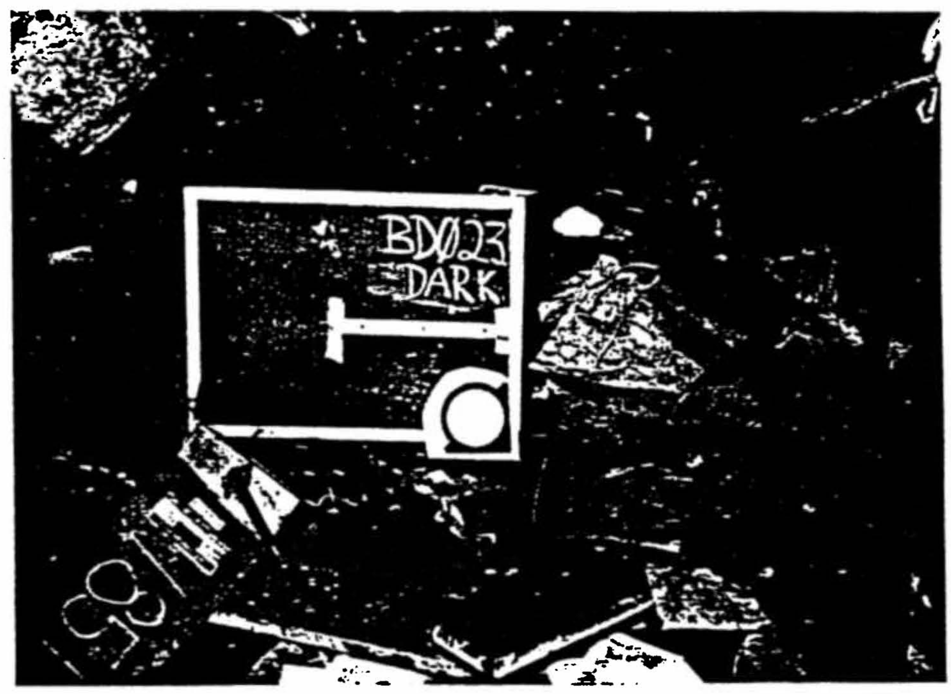
AREA 3
BULK DEBRIS SOIL SAMPLES

Stetson-Harza
A HARZA COMPANY

FILE NO. 0450.046.54F
REVISION DATE 04/05/94

PLATE 48

BD021



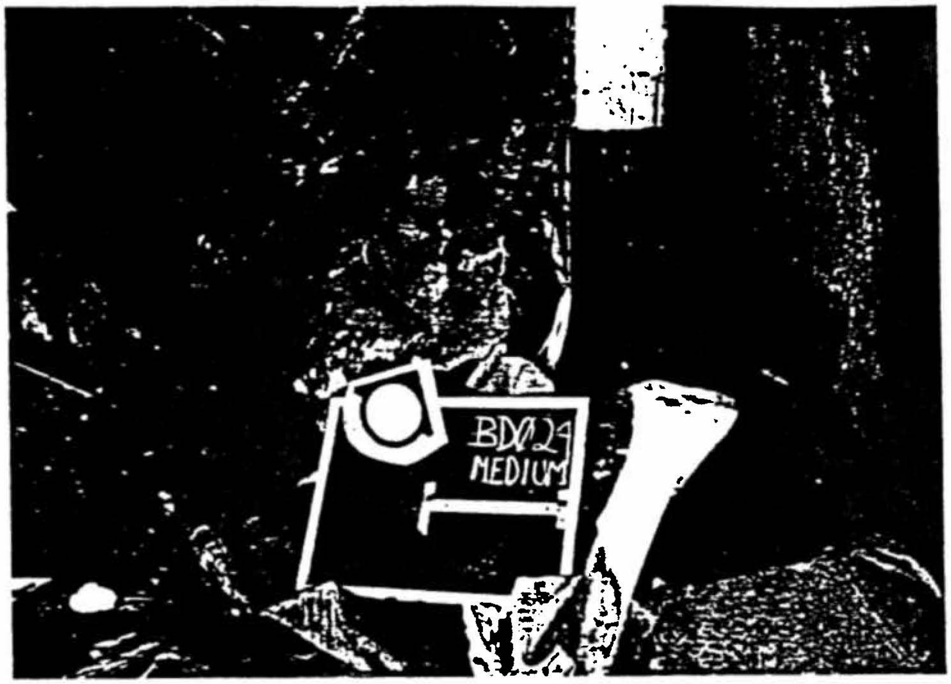
BD023
DARK

AREA 3
BULK DEBRIS CARDBOARD SAMPLES

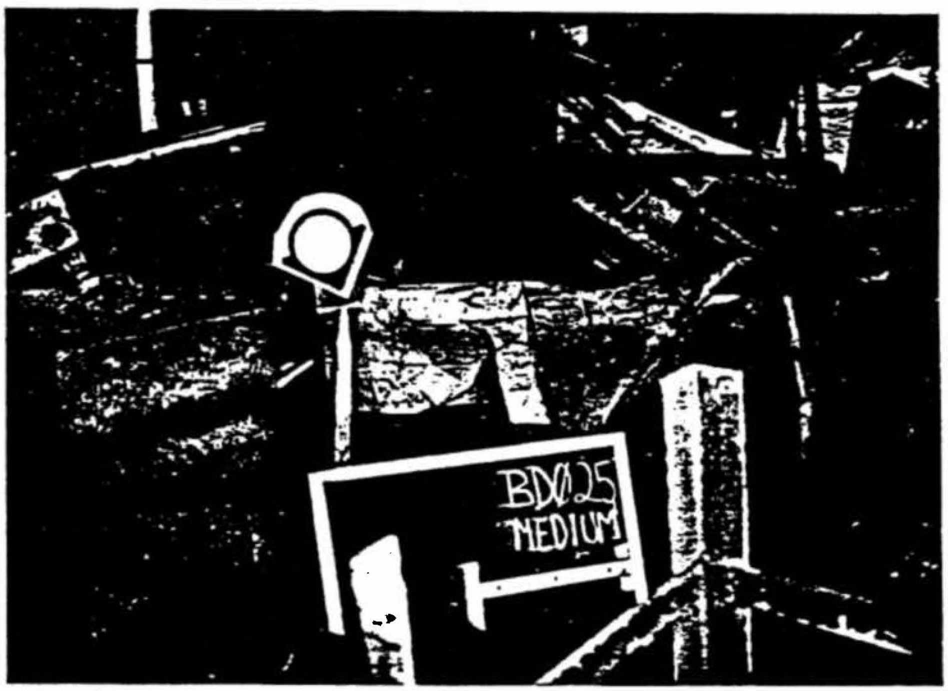
Stetson-Harza
A HARZA COMPANY
181 Genesee Street, Utica, NY 13501 (315) 797-5800
Rensselaer Technology Park
250 Jordan Rd., Troy, NY 12180 (518) 283-6000

FILE NO. 0450.046.55F
REVISION DATE 04/05/94

PLATE 49



BD024
MEDIUM



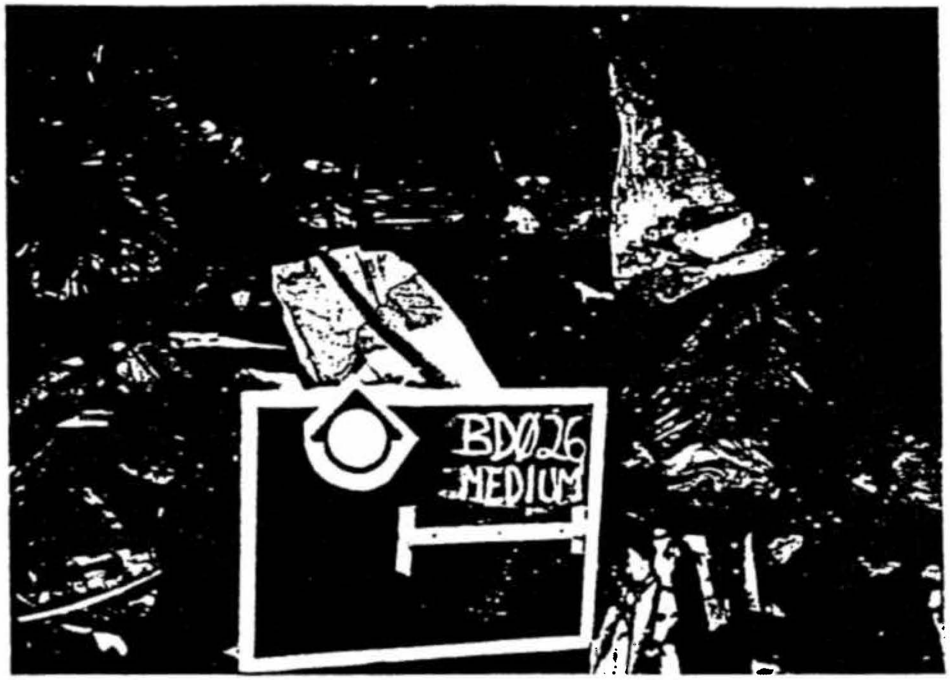
BD025
MEDIUM

AREA 3
BULK DEBRIS CARDBOARD SAMPLES

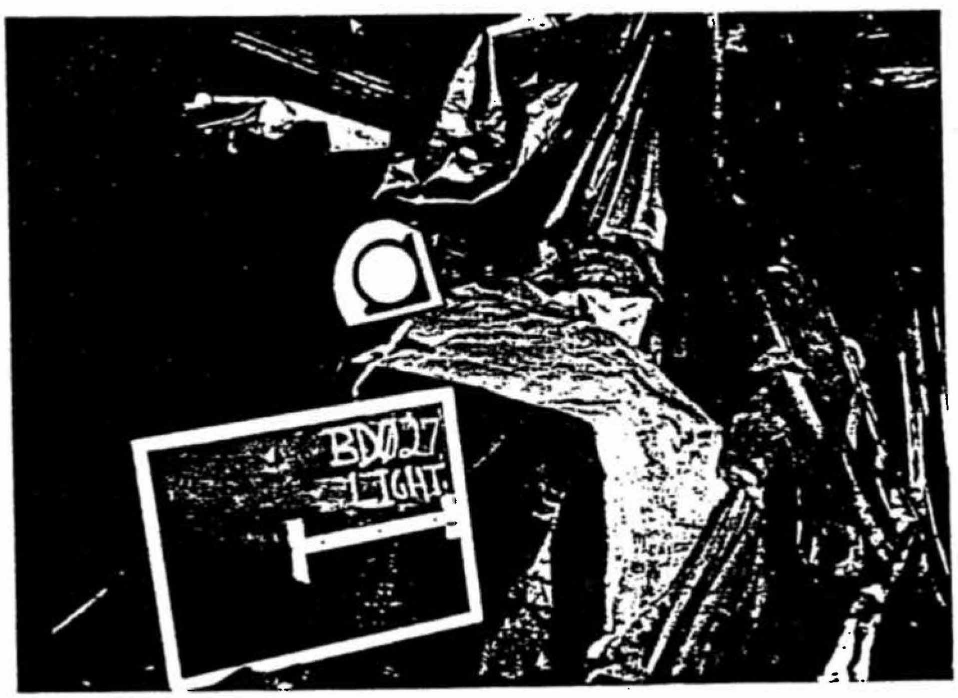
Stetson-Harza
A HARZA COMPANY

FILE NO. 0450.046.56F
REVISION DATE 04/05/94

PLATE 50



BD026
MEDIUM



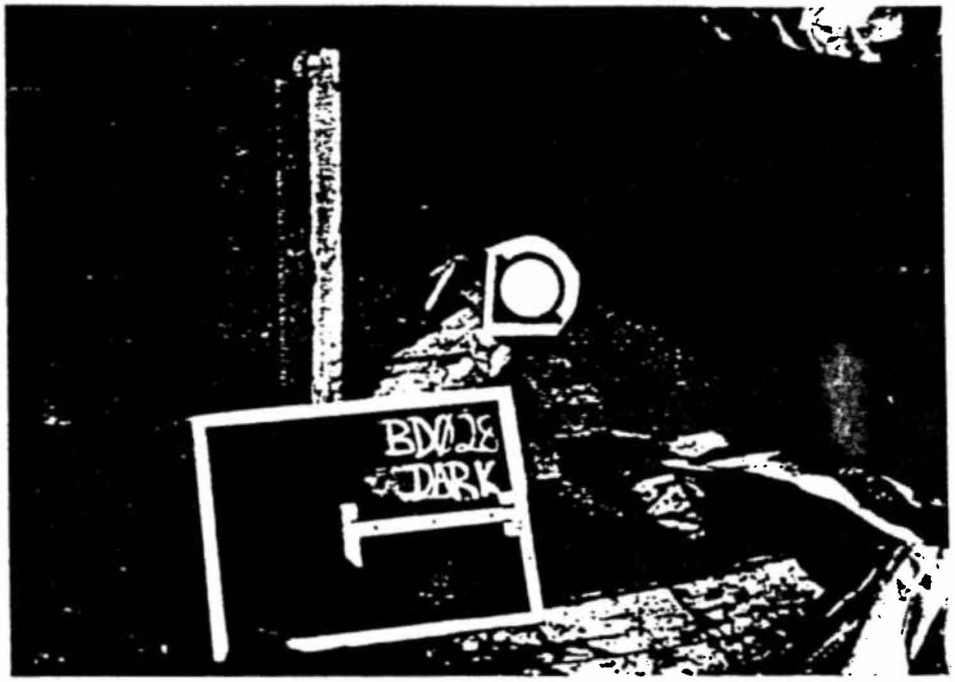
BD027
LIGHT

AREA 3
BULK DEBRIS CARDBOARD SAMPLES

Stetson-Harza
A HARZA COMPANY

FILE NO. 0450.046.57F
REVISION DATE 04/05/94

PLATE 51



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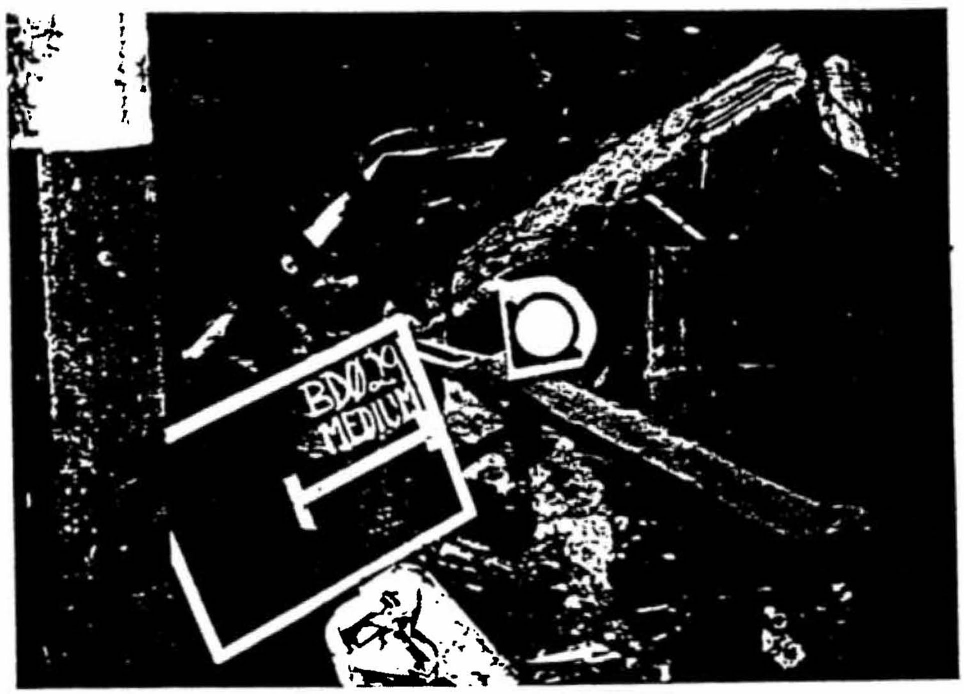
DARK



BDO21
MEDIUM

AREA 3
BULK DEBRIS CARDBOARD SAMPLES

Stetson-Harza
A HARZA COMPANY

FILE NO. 0450.046.58F
REVISION DATE 04/05/94

PLATE 52

BD03[illegible]
LIG[illegible]T

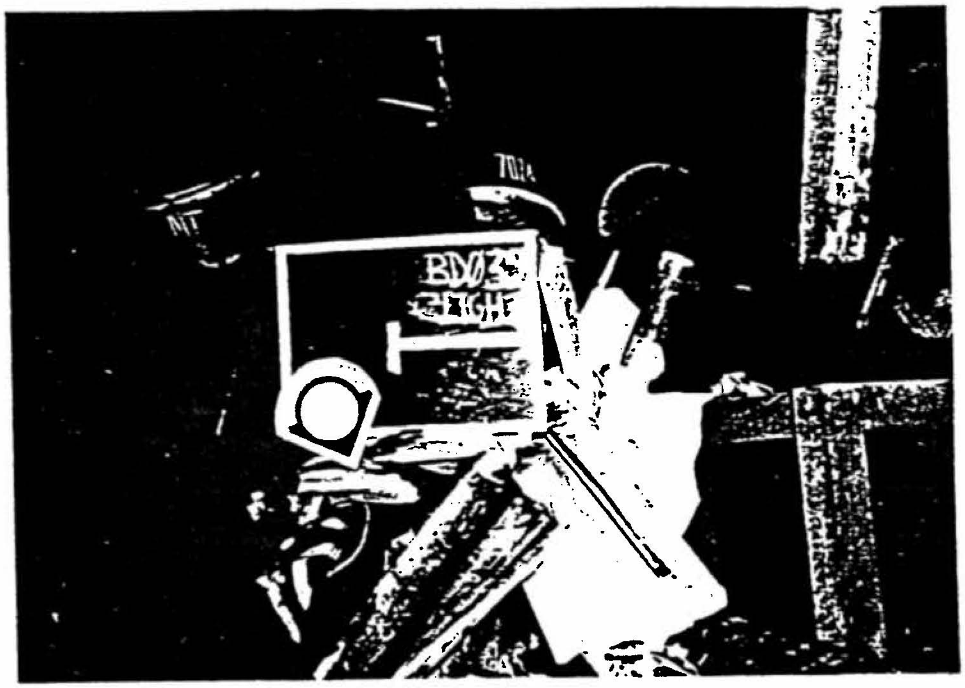
BD03[illegible]
DARK

AREA 3
BULK DEBRIS CARDBOARD SAMPLES

Stetson-Harza
A HARZA COMPANY
181 Genesee Street, Utica, NY 13501 (315) 797-5800
Rensselaer Technology Park
250 Jordan Rd., Troy, NY 12180 (518) 283-6080

FILE NO. 0450.046.59F
REVISION DATE 04/05/94

PLATE 53



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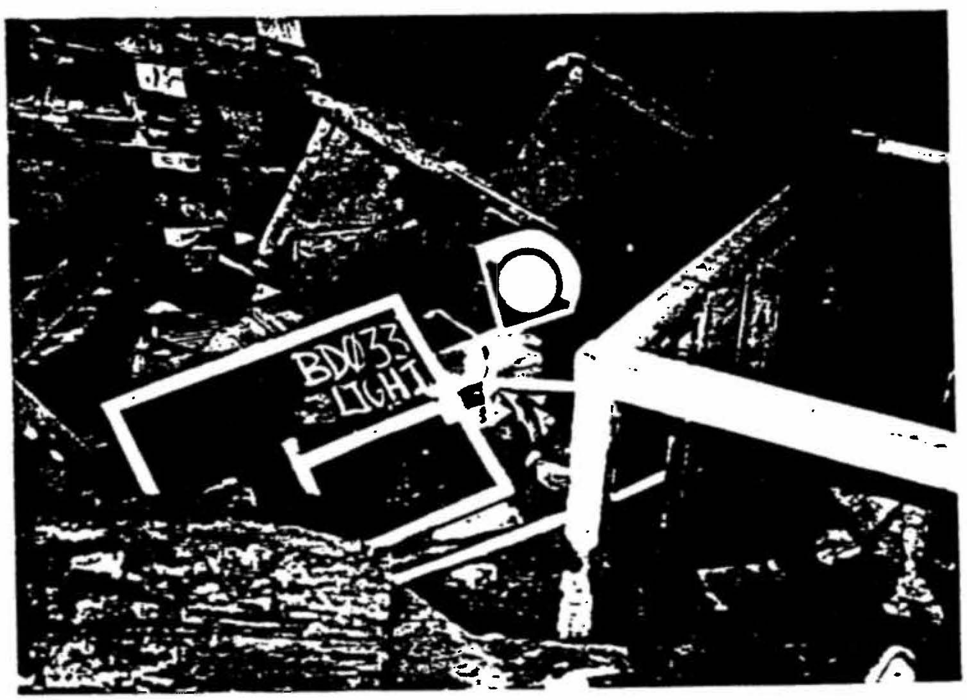
LIGHT



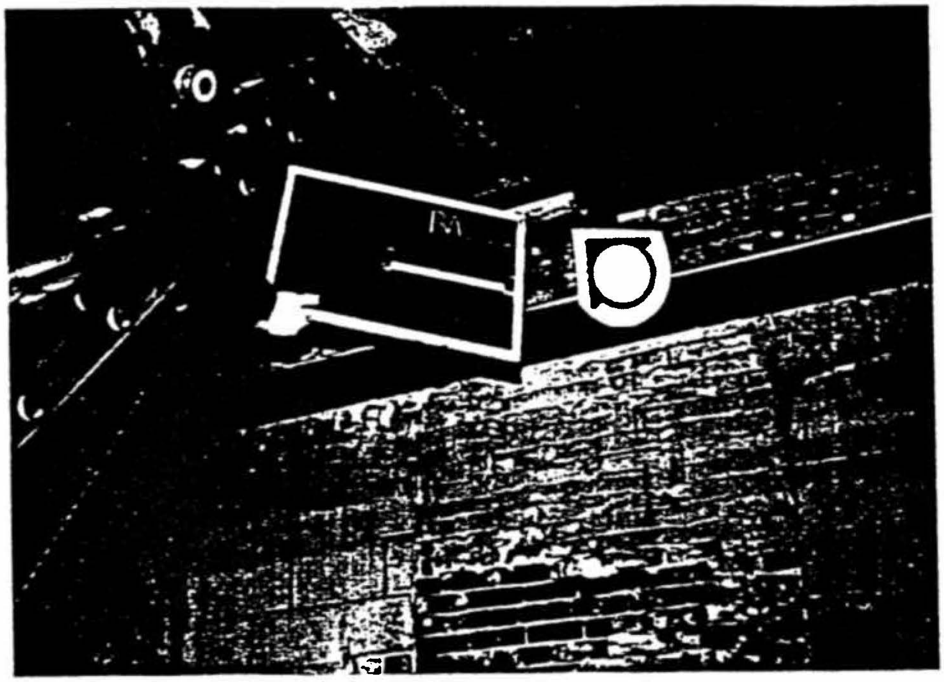
BD033
LIGHT

AREA 3
BULK DEBRIS CARDBOARD SAMPLES

Stetson-Harza
A HARZA COMPANY
181 Genesee Street, Utica, NY 13501 (315) 797-5800
Rensselaer Technology Park
250 Jordan Rd., Troy, NY 12180 (518) 283-8080

FILE NO. 0450.046.60F
REVISION DATE 04/05/94

PLATE 55



BA001

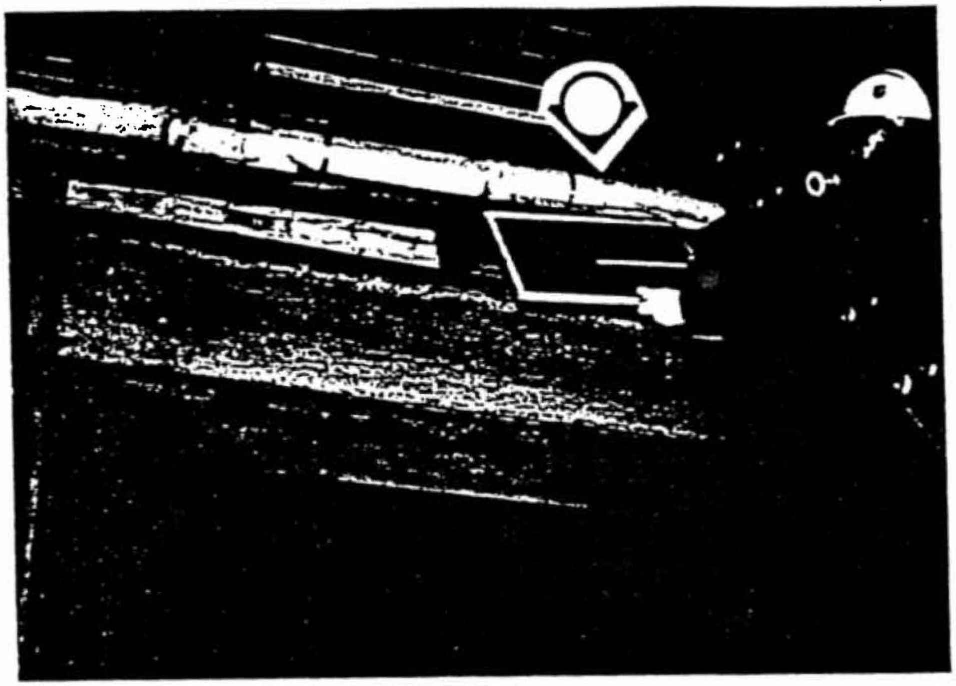
BA002

ASBESTOS SAMPLES

Stetson-Harza
A HARZA COMPANY
181 Genesee Street, Utica, NY 13501 (315) 797-5800
Rensselaer Technology Park
250 Jordan Rd., Troy, NY 12180 (518) 283-6080

FILE NO. 0450.046.62F
REVISION DATE 04/05/94

PLATE 56



BA003

ASBESTOS SAMPLES

Stetson-Harza
A HARZA COMPANY
181 Genesee Street, Utica, NY 13501 (315) 797-5800

FILE NO. 0450.046.63F
REVISION DATE 04/05/94

Bossert Site
Site Code: 6-33-029
Phase I
1002 Oswego Street
Utica, New York

New York State EQBA - Title 3 Project
City of Utica, New York
NYSDEC Region 6, Onieda County

December 1994

O'BRIEN & GERE
ENGINEERS, INC.

BOS - 1.4128

450.046

Analysis of Remedial Alternatives

Phase I
Bossert Site

Site Code: 6-33-029
New York State EQBA Title 3 Project
NYSDEC Region 6, Oneida County

City of Utica
New York
December 1994

STATE OF NEW YORK
BRIEN N. GIDLOW
LICENSED PROFESSIONAL ENGINEER

[illegible] FOR ANY PERSON, [illegible] THE DIRECTION OF [illegible] LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

Brien N. Gidlow, P.E.
Executive Vice President
& Chief Engineer

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Executive summary

This report presents an Analysis of Remedial Alternatives for a removal action of non-structural materials from the Bossert Facility (the Site), 1002 Oswego Street, Utica, New York. In addition, due to the current structural condition of the Bossert building, some type of structural stabilization will need to be employed prior to the completion of Phase I remediation activities. Bossert is owned by the City of Utica and is listed as a Class 2 hazardous waste site (site code 6-33-029) by the State of New York. Eligible investigation and remediation costs are being funded (at 75% of eligible costs) by the State under Title III of the 1986 Environmental Quality Bond Act (EQBA). The remaining 25% of eligible costs are paid directly by the City of Utica (the City) per the statutory requirements of the 1986 EQBA.

Non-structural materials addressed in this report include:

- 28 large metal-stamping presses
- oil and grease lines
- polychlorinated biphenyl (PCB) and mercury contaminated debris
- asbestos containing material (ACM)
- crates stored at the exterior of the facility
- structural (roof) failure debris
- miscellaneous other debris including several large transformer carcasses

Remediation involving these materials comprises Phase 1 of a three phase remedial program for the Site. During Phase 2, the walls and other structural surfaces will be sampled to determine the extent of contamination of the building, while Phase 3 will consist of structural decontamination and/or disposal of the building. Phases 2 and 3 will be performed at a later date in the remedial program. Because it is a removal action, the program is consistent with requirements of the National Contingency Plan (NCP), the Comprehensive Environmental Response and Liability Act (CERCLA), the Title 3 Program State Assistance Grant Contract between the New York State Department of Environmental Conservation (NYSDEC) and the City of Utica, and the NYS Environmental Conservation Law.

The analysis of alternatives presented was designed according to provisions of the NCP, CERCLA, EQBA, and federal and state guidance material such as State Guidance Memoranda Nos. 4030 and 4046. The objective of the Analysis of Alternatives is to provide a technical basis to the City and to NYSDEC from a number of competing alternatives such that a Proposed Remedial Action Plan (PRAP) and a Record of Decision (ROD) can be developed by NYSDEC for Phase 1 removal activities. The alternatives were developed considering their effectiveness, implementability, protection of human health and the environment, community acceptance, and costs, and other considerations. At NYSDEC's request, recommendations for a course of action were developed by O'Brien & Gere Engineers, Inc., (O'Brien & Gere) in the form of the following ten media-specific recommendations based on previous sampling results and pertinent regulatory criteria.

- Removal and proper disposal of asbestos containing material (ACM) from the Site according to applicable regulatory requirements.

- Selective demolition of the building roof to provide a safer working environment during remediation and provide access to the metal stamping presses.

- External cleaning, disassembly, and disposal of the metal stamping presses.

- Segregation of contaminated debris into recyclable metal and "other" categories; decontamination and disposal of the metal, and disposal of the "other" debris.

- Disposal of the grease lines.

- Disposal of PCB contaminated hydraulic oils.
- Disposal of mercury contaminated waste.
- Disposal of crates currently staged at the exterior of Bossert building.
- Disposal of transformer carcasses and associated components, located in the transformer room.
- Disposal of miscellaneous debris from the areas where work is performed.

At NYSDEC's discretion, it is anticipated that a remedial method will be developed from among the media-specific alternatives of this report and a ROD prepared for the Phase 1 removal action.

Afterward, design and associated bid documents will be prepared by O'Brien & Gere on behalf of the City of Utica according to General Municipal Law and EQBA requirements, a contractor selected, and the remedial method implemented.

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List of acronyms

AA	Analysis of Alternatives
ACM	Asbestos Containing Material
AHERA	Asbestos Hazard Emergency Response Act
ARAR	Applicable or Relevant and Appropriate Requirement
BOD	Biochemical Oxygen Demand
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
ECL	Environmental Conservation Law
EQBA	Environmental Quality Bond Act (1986)
FS	Feasibility Study
NCP	National Contingency Plan
NESHAP	National Emissions Standards for Hazardous Air Pollutants
NME	National Machinery Exchange
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
NYSDOL	New York State Department of Labor
O&M	Operations and Maintenance
OHM	O.H. Materials Corp.
OSHA	Occupational Safety and Health Administration
PCB	Polychlorinated biphenyl
POTW	Publicly Owned Treatment Works
PPB	Parts per billion
PPM	Parts per million
PRAP	Proposed Remedial Action Plan
PRP	Potentially Responsible Party
RCRA	Resource Conservation and Recovery Act
ROD	Record of Decision
SARA	Superfund Amendment and Reauthorization Act
SCG	Standards, Criteria, and Guidance
SIR	Site Investigation Report
SPDES	State Pollutant Discharge Elimination System
SWDF	Solid Waste Disposal Facility
SWMP	Solid Waste Management Plan

TCLP	Toxicity Characteristic Leachate Procedure
TSCA	Toxic Substances Control Act
TSDF	Treatment, Storage and Disposal Facility
TSS	Total Suspended Solids
USDOT	United States Department of Transportation
USEPA	United States Environmental Protection Agency
UST	Underground Storage Tank
VOC	Volatile Organic Compound
WWTP	Waste Water Treatment Plant

1. Introduction

1.1. Report scope and objective

This report presents an Analysis of Remedial Alternatives for Phase 1 removal activities at the Site. The Site (as shown in Figure 1) is owned by the City and is listed as a Class 2 Inactive Hazardous Waste Site by the State of New York, Site Code 6-33-029. 75 percent of the eligible costs associated with the investigation and remediation of the Site are being reimbursed to the City under Title 3 of the EQBA. Funding was formally established in New York State Assistance Contract #C300241 between the City and the New York State Department of Environmental Conservation (NYSDEC) in 1991.

The objective of the Analysis of Remedial Alternatives is to provide a comparison of viable remedial options and a technical basis for the selection of final remedial actions from a number of feasible remedial alternatives. This selection process will provide the basis for the preparation of a PRAP and ROD by NYSDEC in consultation with the City of Utica, NYSDOH and the Public. The framework of the analysis is defined by the National Contingency Plan (NCP), provisions of the Comprehensive Environmental Response and Liability Act (CERCLA) as amended by the Superfund Amendments and Reauthorization Act (SARA), the NYS Environmental Conservation Law (ECL), applicable USEPA guidance documents, and relevant NYSDEC Technical and Administrative Guidance Memoranda (TAGMs). The analysis is, therefore, consistent with the Order on Consent (the Order) between the City of Utica and NYSDEC (Index No. A6-0199-89-04) dated October 3, 1989 as well as State Assistance Contract #C300241.

The report provides alternatives for the remediation of the following media:

- 28 metal stamping presses
- grease lines within the facility
- PCB and mercury contaminated debris
- Asbestos Containing Material (ACM)
- crates stored to the east of the exterior of the Bossert facility
- electrical transformer carcasses
- miscellaneous debris

Activities developed to address these materials comprise Phase 1 of a three phase remedial program. Phase 1 is concerned with remediation of the non-structural components described above, while Phases 2 and 3 involve testing and remediation of the structural components of the facility to be conducted at a later date. The development, evaluation, and selection of alternatives was conducted using pertinent federal and state regulations and guidance material, investigatory results from an emergency removal action performed by the USEPA during 1986 and 1987, and results from an investigation recently performed by O'Brien & Gere Investigatory results and a history of site activities are presented in the Site Investigation Report and associated regulatory requirements (SIR; O'Brien & Gere, 1994). The SIR also lists preliminary remedial objectives for Phase 1 cleanup of the Site and associated regulations. Because of its importance to the Analysis of Remedial Alternatives, it is suggested that the SIR be reviewed together with this report.

1.2. Site background

The Bossert facility, while in production, utilized PCB oils in electrical transformers and in hydraulic presses used in the manufacturing process. Manufacturing processes, waste disposal practices, and machinery salvage operations performed subsequent to facility closure have resulted in the spread of PCB residues to structural materials, debris and to presses remaining within the facility. A summary of the significant events of the Site history can be found in Appendix A. A detailed discussion of the history of the Site is presented in the *Draft Site History - Bossert Site*, O'Brien & Gere, January 1993.

The City assumed ownership of the Bossert property through tax foreclosure following bankruptcy of the Bossert Corporation in 1987. On December 27, 1989, the City entered into an Administrative Order On Consent with NYSDEC for the remediation of the Bossert Site. Issues of concern at the Site include the following media: ACM; mercury contaminated waste; underground petroleum storage tank(s) (UST); and PCB residues in structural materials, debris, ACM and on press surfaces.

NYSDEC performed an initial Site inspection including sampling and analysis within the facility on March 21, 1986. The investigation discovered PCBs in oil samples at concentrations of 53 to 91 ppm. In 1986 and 1987, the USEPA Technical Assistance Team sampled oils from drums and sumps at the Site and detected PCB concentrations as high as 10,810 ppm. In 1988, O.H. Materials, Inc. (OHM), under contract to the USEPA, performed remedial efforts at the Site including removal of PCB transformers and decontamination of structural surfaces. After performing these efforts, OHM collected and analyzed wipe samples and bulk samples from treated building surfaces. Analytical results indicated that surficial levels of PCBs on many of the interior structural materials exceeded USEPA standards for reuse of the building. Data obtained from previous investigations are described in greater detail in *Draft Site History - Bossert Site*.

In September 1993, Petrone & Petrone, P.C. (Petrone & Petrone), under contract to the City, undertook a search for potentially responsible parties (PRPs) associated with the Site. Research conducted prior to and during the PRP search indicated that National Machinery Exchange (NME), Newark, New Jersey may own presses at the Site. NME was contacted by Petrone & Petrone via letter to solicit participation in the investigation and disposition of the presses. NME responded that it does not own presses at the Site. In view of this response and the ongoing PRP search and potential legal actions, site investigation and remediation activities are being conducted independently of potential PRP status and liability issues.

1.3. Current site conditions affecting the selection of alternatives

The discussion of alternatives presented in this report reflect current Site conditions to the extent that these conditions could affect non-structural remediation of the Site. Portions of the roof, for example, have collapsed or have deteriorated such that they would pose a health and safety hazard to workers engaged in remediation of the metal stamping presses. Similarly, asbestos pipe wrapping in the facility is deteriorated such that it cannot readily be encapsulated, and may have to be removed prior to remedial work for health and safety purposes.

Other conditions affecting the selection of Phase 1 alternatives include the degree of vandalism which has occurred at the Site over the past several years and the location of the Site with respect to residential housing. In spite of the efforts to provide site security through brush clearing, repair of the fence, installation of warning signs and securing all access to the building, it is possible that illegal entries could continue. In particular, it is felt that, should the presses and debris be left on-site, it would be reasonable to assume that trespassers would be exposed to residual contamination unless the area were to be decontaminated.

1.4. Report format

In addition to the Executive Summary and Chapter 1 - Introduction, the following chapters are contained in this report:

- Chapter 2 - Refinement of Remedial Objectives. In this chapter, remedial objectives presented in the SIR are discussed and refined. This chapter also presents a breakdown of quantities of various types of materials to be handled.

- Chapter 3 - Review of Regulatory Requirements. This chapter discusses relevant regulatory requirements and the application of these requirements to Phase 1 remedial activities.

- Chapter 4 - Identification and Preliminary Screening of Alternatives. In this chapter, specific actions are identified, screened and assembled into reasonable alternatives.

- Chapter 5 - Detailed Technical and Feasibility Evaluation and Cost Effectiveness Analysis. This chapter presents a detailed discussion of alternatives with respect to implementability, effectiveness and the protection of human health and the environment.

- Chapter 6 - Recommended Course of Action. This chapter presents a recommended course of action for Phase 1 remedial activities.

- Chapter 7 - Conceptual Design and Preliminary Cost Estimate. This chapter identifies and discusses design requirements and estimated costs associated with the recommended course of action.

This presentation format closely parallels the outline provided by Ray Lupe (NYSDEC Project Supervisor) in a letter to O'Brien & Gere dated June 29, 1994 (see Appendix B).

2. Refinement of remedial objectives

Preliminary remedial objectives were presented in the SIR. Those objectives are refined in this chapter for consideration by the City and NYSDEC when selecting a preferred remedial method for Phase 1 removal activities.

2.1. Remedial objective

As stated earlier, Phase 1 of this project involves a removal action that addresses the following non-structural components of the Bossert facility: PCB contaminated debris piles; metal stamping presses; grease lines; ACM; mercury contaminated waste; electrical transformer carcasses; miscellaneous debris; and PCB contaminated crates. These actions must comply with applicable State and Federal regulations, such that public health and the environment are protected. The NYS standards, criteria and guidance (SCGs) and required clean up levels for each media and each alternative are discussed in detail in Chapter 5.

2.2. Identification of volumes and areas

The following is a list of the estimated quantities of each media.

- There are 28 PCB contaminated, large metal stamping presses located in the press room area of the facility as shown on Figure 2. Although these presses are of assorted makes and models it has been estimated that the average weight of each press is approximately 50 tons. Approximate dimensions of each press are 30 feet high by 10 feet wide by 10 feet long.

- The metal stamping presses were lubricated by a central grease system. The remaining components of the system consist of approximately 650 feet of 1/8 inch diameter grease lines. A central grease distribution area consisting of a large diameter grease feed line is located in the southeast portion of the production area.

- Debris was placed in areas 2 and 3 (as shown on Figure 3) during the 1986 USEPA Emergency Removal Action. The volume of the debris piles has been estimated to be between 3500 to 5000 cubic yards of wood, concrete, paper, cardboard, metal, absorbent material ("kitty litter") and floor sweepings. The various materials are mixed and intertwined into heterogeneous piles stretching the length of the debris storage areas. If it is assumed that the piles do contain 5000 cy, in place, and that 35% of the in place volume consists of void spaces, then the compressed volume would be approximately 3250 cy. If it is assumed that 5% of the compressed volume is recyclable metal and that the density of that metal is 6.625 tons/cy, then there is approximately 1080 tons of recyclable metal. If it is assumed that the remaining 95% of the debris piles have an average density of 1 ton/cy, then there is approximately 3087 tons of "other" material. There are approximately ten to fifteen metal dumpsters located in Areas 2 and 3. These dumpsters contain some of the contaminated material described above. There are also three 55-gallon drums which contain mercury contaminated waste which are located in area 2.

- The volume of the pile of wooden crates is estimated to be 266 cy (12 ft x 12 ft x 50 ft). If it is assumed that 90% of this volume is void spaces, then if the crates were crushed the volume to be disposed of would be approximately 27 cy. Perhaps 1 cubic foot of this material may be recyclable metal.

- The information on the material discussed above is summarized in Table 1.

- There is a variety of ACM present at the Site. It has been estimated that there are: 1000 sq ft of floor tiles; 2000 sq ft of transite boards; 2500 lf of premolded plaster pipe insulation; 1500 lf of air cell pipe insulation; 300 sq ft of plaster pipe fitting insulation; 500 sq ft of piping insulation debris on the floor; 120 sq ft of boiler steam drum insulation; 110 sq ft of de-aerator tank insulation; and 100 lf of boiler gaskets. It is also estimated that there is a minimum of 56,300 sf of ACM incorporated into the various roof structures of the building.

3. Review of regulatory requirements

It is a statutory requirement that remedial actions at hazardous waste sites comply with legally applicable and appropriate state and federal requirements (i.e. Toxic Substances Control Act), unless provisions are made for their waiver. This chapter discusses remedial alternatives with respect to this requirement, and, therefore, supports the Analysis of Remedial Alternatives' objective presented in Chapter 1 of this report. In general, the regulations cited involve transportation, disposal, and worker safety requirements on a media-specific basis. Examples of their applicability are provided throughout the text.

3.1. Summary of regulations

The following is a summary of the state and federal regulations and guidance which are directly applicable to the Analysis of Remedial Alternatives:

General
- NYSDEC Technical and Guidance Memoranda (TAGM) 4030 and 4046

PCBs
- 6 NYCRR Parts 370, 371, 372, 373, 374, 375, and 376
- 40 CFR Part 761

Asbestos
- 40 CFR 763
- 40 CFR 61
- 12 NYCRR 56
- 29 CFR 1910
- 20 CFR 1926.58

Solid waste transport and disposal

- 6 NYCRR Part 360
- 6 NYCRR Part 364

Air monitoring

- TAGM HWR-89-4031

To further evaluate the applicability of federal and state regulations to the development of alternatives, phone conversations were held with Mr. David Greenlaw (USEPA Region II PCB Program Coordinator, see Appendix C) and Mr. John Miccoli (NYSDEC RCRA Program, see Appendix D). Mr. Greenlaw was contacted in accordance with 40 CFR Part 761 which requires that the regional spill coordinator be contacted for any spill which occurred prior to the effective date of the Spill Cleanup Policy, 1987. Information provided by these individuals is reflected in this chapter.

A summary of regulatory criteria potentially applicable or appropriate for Bossert Site Remediation has been compiled in Table 2.

3.1.1. General

NYSDEC TAGM 4030 - The Selection of Remedial Actions at Inactive Hazardous Waste Sites.

As its title implies, this TAGM describes the procedures and criteria for the selection of remedial actions at the Site. The TAGM incorporates amendments to the Superfund Amendment and Reauthorization Act (SARA) and the Resource Conservation and Recovery Act (RCRA) which restrict land burial and provide incentives to use treatment technologies in remedial programs. TAGM 4030 describes SCGs. In accordance with the TAGM, an alternative which does not meet SCGs and, if a waiver to an SCG is not appropriately justifiable, such an alternative is not considered further. TAGM 4030 lists a preferred hierarchy of remedial technologies against which the remedial alternatives for the Site have been compared. The preferred hierarchy is:

- Destruction - This type of remedy irreversibly destroys or detoxifies all or most of the hazardous waste to "acceptable clean-up levels". This type of remedy results in permanent reduction in the toxicity of all or most of the hazardous waste. Destruction would apply to the remedial actions involving cleaning of the presses or debris as well as incineration of PCB contaminated oil and mercury contaminated waste.

- Separation/treatment - This type of remedy results in permanent and significant reduction in the volume of material that is contaminated with hazardous waste. Separation and treatment would apply to remedial actions involving the PCB contaminated metal stamping presses as well as the metal debris contained in Areas 2 and 3 of the Bossert facility.

- Solidification/chemical vesication - This type of remedy is generally directed to those sites containing predominantly inorganic hazardous waste. This remedial technology is not applicable at the Site for this project phase.

- Control and isolation technologies - This type of remedial action significantly reduces the mobility of the hazardous waste, but does not significantly reduce the volume or toxicity of the hazardous waste. This type of remedial technology is not applicable at the Site.

- Off-site land disposal - This type of remedy is potentially applicable to remedial actions involving PCB contaminated presses and debris, as well as ACM and the crates. Whenever feasible and practical, scrap metal materials should be melted down, rather than be sent off-site for disposal.

TAGM 4030 goes on to describe the development of remedial actions. It notes that the media to be remediated are determined by information on the nature and extent of contamination, and applicable relevant and appropriate regulations (ARARs), which are federal requirements, and SCGs, which are state requirements. By reference, NYS SCGs also include federal guidance and standards. It should be noted that these two sets of criteria are not necessarily the same, and in cases of apparent discrepancy, the more stringent criteria typically applies.

Once developed, the remedial actions are screened with respect to the criteria set forth in TAGM 4030. The objective of screening remedial actions is to narrow the list of potential alternatives that will be evaluated in detail. Two basic criteria are used to screen actions: effectiveness and implementability.

A key aspect of the evaluation with respect to effectiveness is whether it protects human health and the environment. Both short term and long term effectiveness are evaluated: short term referring to the construction and implementation, and long term referring to the period after the remedial action is in place and effective. Implementability is a measure of both the technical and administrative feasibility of constructing, operating, and maintaining a remedial action alternative. Administrative feasibility refers to compliance with applicable rules, regulations and statutes, as well as the ability to obtain approval from other offices and agencies, and the availability of treatment, storage and disposal service capacity. Technical feasibility refers to the ability to construct and reliably operate while meeting technical specifications and criteria, as well as the availability of specific equipment and necessary technical specialists to operate the process units.

TAGM 4030 further describes the requirements for the detailed analysis of alternatives. The purpose of the detailed analysis of alternatives is the analysis and presentation of relevant information necessary to allow decision makers to select a site remedy. The specific requirements that must be addressed are:

- protection of human health and the environment
- compliance with SCGs and ARARs
- satisfying the preference for treatment that significantly and permanently reduces toxicity, mobility, or volume of hazardous waste as a principle element
- cost effectiveness

Seven evaluation criteria are developed to address these considerations:

- short term impacts and effectiveness
- long term effectiveness and performance
- reduction of toxicity, mobility, or volume
- implementability
- compliance with SCGs and ARARs
- overall protection of human health and the environment
- cost

To facilitate analysis, remedial alternatives have been developed for each contaminated media. The alternatives for each media are evaluated in detail in Chapter 5 using the criteria stated in TAGM 4030, as appropriate. In Chapter 6, recommended media-specific alternatives have been assembled.

3.1.2. Regulations covering PCBs and mercury

Title 6 NYCRR Part 370 - Hazardous Waste Management System - General

This Part of the New York Code of Rules and Regulations (NYCRR) provides terms and general standards applicable to Parts 371 through 376.

Title 6 NYCRR Part 371 - Identification and Listing of Hazardous Wastes

This Part defines a chemical-specific SCG that defines solid wastes which are hazardous wastes. Based on the characteristics of the hazardous waste, previous test results, and Part 371.3, the mercury drums in areas 2 and 3 would be considered a D009 waste (USEPA hazardous waste number), the PCB contaminated debris in areas 2 and 3 as a B007 waste with the exception of the metal debris, and the hydraulic oil in the presses as a B002 waste. Since the metal debris in areas 2 and 3 is not greater than 50 ppm PCBs by volume, it would not be considered a hazardous waste according to applicable regulations. It could, however, be considered subject to high-contact surface clean-up standards discussed under 40 CFR Part 761.

- Hydraulic machines (i.e. metal stamping presses) are addressed in part 371, subsection 4:

  "Hydraulic machines containing <1,000 ppm PCBs are no longer regulated as PCB listed hazardous waste, provided that all free-flowing liquid has been drained from the hydraulic machine. The drained liquid is a listed hazardous waste, as is any solvent used for flushing."

  "Hydraulic machines containing ≥1,000 ppm PCB are no longer regulated as PCB listed hazardous waste, provided that all free-flowing liquid has been drained from the hydraulic machine, and the drained hydraulic machine is flushed with a solvent in which PCBs are readily soluble. The solvent to be used for flushing must contain less than 50 ppm PCB. The drained liquid and the solvent used for flushing are listed hazardous wastes."

<u>Title 6 Part 372 - Hazardous Waste Manifest System and Related Standards for Generators, Transporters, and Facilities</u>

This Part represents an action-specific SCG that establishes standards for generators and transporters of hazardous waste and standards for generators, transporters, and treatment, storage, or disposal facilities relating to the use of the manifest system and its recordkeeping requirements. As a hazardous waste, the PCB contaminated debris, mercury contaminated waste, and PCB contaminated drained oil will require manifesting if transported off-site. The metal stamping presses will not require manifesting. However, dismantling or disassembly and gross decontamination of the metal stamping presses may be required prior to shipment off-site for recycle. It is anticipated that the wash water treatment process will accumulate PCBs above regulated limits and the residuals generated will require either on-site treatment and disposal or manifesting prior to shipment off-site for treatment and disposal.

For each hazardous waste, the City would be identified as the generator of record.

Packaging of hazardous waste must conform to US Department of Transportation (USDOT) regulations 49 CFR Parts 173, 178, and 179. Labeling, marking, and placarding must conform to USDOT regulation 49 CFR Part 172.

Reporting and recordkeeping requirements are also listed in Part 372. Manifest records must be kept for a period of 3 years and test results for 3 years from the date of shipment. A copy of these records must be made available to NYSDEC.

Transporters of hazardous waste must comply with provisions of 6 NYCRR Part 364 "Waste Transporter Permit" and be permitted to transport hazardous waste in New York State. The transporter must keep a copy of the manifest signed by the generator for a period of 3 years.

Shipments by rail are governed by Part 372.7. Shipping by rail may be a viable option for portions of the waste or metal stamping presses.

Title 6 NYCRR Part 373 - Hazardous Waste Management Facilities

This Part is an action-specific SCG that regulates the treatment, storage, and disposal of hazardous wastes. Part 373 requirements are applicable to owners and operators of hazardous waste treatment, storage, and disposal facilities. The requirements are specific to the disposal of hazardous waste within New York State. Thus, disposal facilities within New York State that accept PCB waste oil, mercury contaminated material, and PCB contaminated debris will be subject to permit requirements of this Part.

Title 6 Part 375 - Inactive Hazardous Waste Disposal Sites

This Part is a site-specific SCG which applies to the investigation and clean-up of inactive hazardous waste sites involving the expenditures of state monies. This part further defines the extent of public participation, site classifications, and remedy selection. General rules for the selection of a remedy require that the remedy eliminate or mitigate significant threats to the public health and to the environment and that the remedial program conform to state and federal standards, criteria, and guidance.

Title 6 NYCRR Part 376 - Land Disposal Restrictions

This Part identifies hazardous wastes that are restricted from land disposal. It further states that dilution is prohibited as a substitute for treatment.

- PCB wastes with less than 50 ppm may be subject to TSCA for disposal options and treatment standards. As indicated by correspondence with Mr. Ernest Regna - Chief Pesticides and Toxic substances Branch USEPA, dated 8/6/93 (see Appendix E), it is expected that many non-PCB disposal facilities may limit the level of PCB contamination that they will accept to significantly less than 50 ppm and may have their own sampling plan requirements. Based on this information a project threshold of 35 ppm has been established for the characterization of a material as a PCB waste.

- Liquid hazardous wastes (B002 wastes - i.e. hydraulic oil) containing PCBs at concentrations greater than or equal to 50 ppm are prohibited from land disposal in NYS, but may be disposed of out-of-state, in a TSCA-permitted landfill, if that method of disposal is allowed by the receiving state.

- Hydraulic oil containing PCBs at concentrations between 50 and 500 ppm may be incinerated or may undergo other types of permanent treatment (such as dechlorination or other forms of chemical destruction).

- Hydraulic oil containing PCBs at concentrations greater than 500 ppm will require incineration.

- Mercury contaminated wastes (D009 wastes) with over 260 mg/kg of total mercury are restricted from land disposal and must either be incinerated or be retorted and then incinerated.

- Solids contaminated with PCBs (B007 wastes) are allowed to be disposed of in a TSCA-permitted landfill, without treatment.

- It should be noted that the waste debris in areas 2 and 3 of the Site are subject to the anti-dilution regulations of this part.

Part 376 also discusses PCB disposal, noting the PCB contaminated wastes not regulated under Section 376.3 (b) shall be disposed of in accordance with the provisions of 40 CFR Part 761.

Title 40 CFR Part 761 - Poly-chlorinated Biphenyls (PCB's) Manufacturing, Processing, Distribution in Commerce, and Use Prohibition

Part 761 is a chemical-specific ARAR. Subpart G of 40 CFR Part 761 entitled PCB Spill Cleanup Policy provides clean-up levels for low and high contact PCB contaminated surfaces. The Policy specifies that high contact outdoor surfaces and low contact indoor surfaces be cleaned to ≤10 ug/100 cm^2 PCBs and that low contact, indoor pervious surfaces be cleaned to ≤10 ug/100 cm^2 or to ≤100 ug/100 cm^2 and encapsulated.

Alternatives affected by the PCB Spill Cleanup Policy are those related to the surface decontamination and storage on-site of the metal stamping presses and metals debris in areas 2 and 3.

Disposal of PCB contaminated waste out-of-state would be covered under Part 761 and the applicable regulations of the state in which the disposal facility is located.

Mr. Greenlaw stated that a cleanup level of 10 ug/100 cm^2 PCBs is appropriate for decontamination of the stamping presses in the event that the presses remain on-site (personal communication, 7/18/94, see Appendix D).

In a 9/27/94 conversation with Mr. Reagan of NYSDEC, Mr. Greenlaw strongly recommended a relatively thorough gross decontamination of the press components, prior to shipment off-site for meltdown (see Appendix F for a copy of Mr. Reagan's confirmation letter to Mr. Greenlaw). Although not necessarily a regulatory requirement, some periodic wipe testing of the component parts following decontamination was also strongly recommended. Mr. Greenlaw stated that a generalized goal would be to achieve a PCB surface contamination level of ≤100 ug/100 cm^2 following gross decontamination and that the decontamination process should be tuned or adjusted to meet this general goal level, if feasible or possible. If it is not feasible or possible to reach this maximum PCB surface contamination level following the gross decontamination process, then this information (remaining PCB surface contamination levels) should be noted on the shipping manifests for the press component parts. Mr. Greenlaw also stated that, as a practical matter, the mechanical disassembly of the presses would be preferred, if possible. However, if necessary, the use of torches or cutting equipment would also be allowed. Mr. Greenlaw further stated that it may also be desirable to recycle scrap metals (if practical) which are currently mixed-in with the debris in areas 2 and 3. If recovered, then these separated metals would require a gross decontamination process prior to be shipped off-site for remelt/recycling. Again, although not a regulatory requirement, a general goal would be a surface PCB contamination level of ≤100 ug/100 cm^2 following the gross decontamination process. Mr. Greenlaw went on to state that, from a regulatory standpoint, it is preferable that the scrap yard and smelting facilities be located in the US, although the hydraulic machines which contained fluids with PCB concentrations ≤50 ppm could be shipped outside the US for final disposal.

It should be noted that Part 761 contains language comparable to 6 NYCRR Part 371 for hydraulic machines, but that there are no NYSDEC regulations comparable to the PCB Spill Cleanup Policy for surface decontamination.

3.1.3. Regulations covering the removal of ACM

Title 40 CFR Part 763 - Worker Protection Rule and Part 61 - National Emission Standard for Asbestos

USEPA regulations potentially impacting asbestos removal work consist of Part 763, Subpart E, training requirements of the Asbestos Hazard Emergency Response Act (AHERA); and 40 CFR 61 Subparts A and M, notification, removal and disposal provisions of the National Emission Standards for Hazardous Air Pollutants

(NESHAP). USEPA training requirements are fulfilled through completion of state approved training. Therefore, persons holding valid New York State certification are recognized as fulfilling federal requirements. Notification and disposal requirements must be complied with, as well as engineering controls.

Title 29 Parts 1910 and 1926 - Occupational Exposure to Asbestos, Tremolite, Anthophyllite, and Actinolite

US Department of Labor, Occupational Safety and Health Administration (OSHA) requirements specific to asbestos are included in Part 1910, Section 1001 as well as Part 1926, Section 58. It is O'Brien & Gere's understanding that asbestos projects performed at the Site must be in compliance with these OSHA requirements, which address exposure limits, engineering controls, personnel protection, training and supervision.

NYCRR Title 12 Part 56 - Industrial Code Rule 56

Code Rule 56 is the most stringent state regulation involving asbestos which is potentially applicable to the Site. Code Rule 56 is enforced by the New York State Department of Labor (NYSDOL) and involves training and certification, engineering controls, air monitoring, project clearance and notifications. Code Rule 56 also requires performance of a pre-demolition asbestos survey prior to removing structural or load bearing building components. Asbestos removal must be conducted in accordance with Code Rule 56, or with project-specific variances from the Code Rule obtained for the Site.

The New York State Department of Health (NYSDOH) has also established asbestos training criteria as well as laboratory bulk and air sample analytical methods. The NYSDOH certifies laboratories performing asbestos analysis and approves training providers. Personnel performing asbestos-related work at the Site must maintain appropriate certifications throughout their involvement in the project.

3.1.4. Regulations covering solid waste transportation and disposal

Title 6 NYCRR Part 360 - Solid Waste Management Facilities

Part 360 is an action-specific SCG for the purposes of this FS. Part 360 regulates solid waste facilities, as opposed to hazardous waste facilities, located wholly or partially within NYS. Part 360 is applicable to actions involving the disposal of materials that were never hazardous, or materials that leave regulation as hazardous waste, or are exempted under Parts 370 through 376. Such materials could include: debris with less than 50 ppm of PCB contamination; crates; grease lines; metal stamping presses, once drained of oil; and friable asbestos. Any solid waste facility within NYS would have to meet the requirements of Part 360 in order to receive and dispose of these materials. Regulations governing the transportation of solid waste are set forth in 6 NYCRR Part 364. Non-friable ACM such as roofing and floor tiles may be exempted from NYSDEC transportation and disposal permit requirements. Transportation of waste water generated on-site will require a modified Part 364 permit.

3.1.5. Disposal facilities

There are a variety of treatment, storage and disposal facilities (TSDF) and solid waste disposal facilities (SWDF), both in-state and out-of-state, which may be utilized in conjunction with this project. The materials handling, treatment and disposal costs can vary widely depending on a number of factors such as: distance from the Site, applicable regulations, required treatment levels, the capacity of the facility and the going rates in the market. It should also be noted that a TSDF or SWDF owner can refuse to accept waste from any given source.

3.1.6. Water treatment requirements

Preliminary conversations with personnel from the Oneida County Sewer District and NYSDEC Division of Water have indicated that discharges to the sewer system will not be allowed, and that any waste water generated on-site, for example during decontamination or truck washing operations, would have to be pretreated, sampled and trucked to the WWTP. Prior to discharge to the WWTP the sample results must demonstrate that the water contains no characteristic hazardous waste, no listed hazardous waste, no PCBs, and concentrations of priority pollutant list compounds must be below regulatory requirements.

3.1.7. Air quality requirements

TAGM HWR-89-4031 Fugitive Dust Suppression and Particulate Monitoring Program at Inactive Hazardous Waste Sites

In order to reduce the direct impacts on human health from contaminated dust, without placing an undue burden on the remedial activities, a fugitive dust suppression and real-time particulate monitoring program is required on-site. Dust suppression techniques must be employed during all site activities which may generate fugitive dust. Particulate monitoring must be employed when activities may generate fugitive dust from exposed waste or contaminated soil. An action level of 150 ug/m^3 has been included, to trigger further measures, as required.

3.1.8. Recycling

The NYS Solid Waste Management Plan (SWMP) calls for less emphasis on landfilling and places a higher priority on solid waste reduction, reuse and recycling. To be consistent with this plan, those materials removed from the Site under this phase, will be recycled as much as is feasible and practical.

4. Identification and preliminary screening of remedial alternatives

The following remedial alternatives have been developed for the media in question. The remedial actions which remain viable after screening are then assembled into alternatives for further evaluation. Definitions for the following terms have been developed in order to provide quantifiable criteria to be used in evaluating the alternatives described in this report:

- External cleaning - Prior to dismantling the machines, the cleaning of the exposed surfaces of the machines, such that there is no visual evidence of contamination.

- Draining - Removal of free flowing liquids from the machines.

- Gross decontamination - For the machines (following external cleaning, draining and dismantling), the cleaning of exposed surfaces to a target level of 100 ug/100 cm^2, as confirmed by wipe samples. For the metal debris, cleaning of exposed surfaces to a level $\leq$100 ug/100 cm^2, as confirmed by wipe samples.

- Major decontamination - For the machines (following external cleaning, draining and dismantling), the extensive cleaning of exposed surfaces to a level $\leq$10 ug/100 cm^2, as confirmed by wipe samples. For the metal debris, an extensive cleaning of exposed surfaces to a level $\leq$10 ug/100 cm^2, as confirmed by wipe samples.

- Residual - Those materials that are removed during external cleaning, draining and decontamination and are separated from the wash water during treatment, as well as any contaminated treatment materials such as cartridge filters and filter media.

4.1. No action

The "no action" alternative is intended to serve as a baseline for comparison of other alternatives. In the case of this project, the "no action" alternative actually implies "some action", such as the maintenance of the Site in its existing condition, with fencing and warning signs. The site security measures, implemented to date, are intended to provide for the short-term protection human health and the environment. It is evident from several illegal break ins that they are not wholly effective. Therefore, this alternative is not considered, for the long term, to be protective of human health and the environment. Therefore the "no action" alternative for the entire remediation project will not be considered further. The "no action" alternative has also serves as the baseline for comparison for each of the remedial tasks described below.

4.2. Selected building demolition

Minor roof collapses were recorded at the western end of the facility over the winter of 1992-93. The collapsed areas significantly increased in size over the winter of 1993-94 (see Figure 4). The south wall of the Cooling Room/Pickling Room has collapsed. Movement has occurred at the base of some of the columns that support portions of the roof adjacent to the collapsed areas. Other columns and beams have twisted or buckled, and there are cracks along one of the interior masonry walls. Other areas of the roof also buckled and exhibit cracked and deteriorated roof beams. Further structural failures are anticipated in these areas due to the unstable condition of the structure that remains standing. At this time, the advanced deterioration of the building structure does not appear to represent an <u>immediate threat</u> to public safety. Longer term, the exterior west wall of the Bossert building could represent a potential threat to public safety; in particular, if additional roof collapse occurs in this part of the building. However, it does represent a safety hazard and health risk to current on-site remediation workers, unless additional measures are taken to stabilize the structural condition of the building.

Also, the local fire department has stated that it is unwilling to enter the structure in the event of a fire, and that their strategy for fighting a fire at the facility would be to contain the blaze and prevent its spread to surrounding properties. The uncontrolled combustion of the various materials found on the Site may pose a threat to public health.

At the request of the City, O'Brien & Gere and Stetson-Harza (as subcontractor to O'Brien & Gere) are currently monitoring the status of the structure. During the construction of the Phase I remediation, the Contractor will be responsible for monitoring the structure.

There are several remedial "action" alternatives considered to address these issues. These actions include: selective demolition of the structure; selective bracing of the structure; and no action during Phase 1. The "no action" alternative is not considered implementable from the standpoint of worker safety and is not considered further. From the remaining remedial actions, four alternatives have been assembled for detailed evaluation in Chapter 5:

- Alternative 1 - Perform demolition activities in the Cooling Room, the Annealing Room and Pickling Room and remove the entire roof from the Press Room. Temporary bracing would be installed along the west wall of the Press Room, adjacent to Lenox Avenue, to support the free-standing wall. The debris resulting from demolition would be stored on-site. Refer to Figure 5 for the limits of the demolition area.

- Alternative 2 - Remove the entire roof of the Press Room and provide temporary bracing for the west wall of the Press Room. Refer to Figure 6 for the limits of the demolition area.

- Alternative 3 - Remove a portion of the roof of the Press Room, adjacent to the area that has previously collapsed or is showing signs of distress and provide temporary bracing where required. Refer to Figure 7 for the limits of the demolition area.

- Alternative 4 - Provide demolition and/or temporary structural stabilization of the Bossert building, as proposed by the Contractor.

4.3. PCB contaminated metal stamping presses

There are several remedial action alternatives for the disposal of the presses which have been considered. These actions are: "no action"; cleaning of external surfaces and draining of the free flowing fluids; decontamination of the interior and exterior surfaces; disassembly of the presses; disposal in a TSCA-permitted landfill; disposal in a sanitary landfill; delivery to a scrap dealer for segregation and subsequent meltdown; delivery directly to a smelter for meltdown; resale of presses, for use or as parts; cleaning the presses and leaving on-site; and proper disposal of residuals.

Under Part 376, residuals with PCB concentrations between 50 and 500 ppm may either be disposed at an out-of-state TSCA-permitted landfill (if allowed by the receiving state), or may by incinerated, or may undergo other types of permanent treatment (such as dechlorination or other forms of chemical destruction). Residuals with PCB concentrations greater than 500 ppm will require incineration.

The "no action" option is not considered effective from the standpoint of the long term protection of human health and the environment and compliant with SCGs because it does not reduce the toxicity, mobility or volume of the contamination. The "no action" alternative also does not comply with current TSCA requirements and USEPA guidance concerning residual PCB contamination for unrestricted use areas.

While off-site decontamination would involve the same processes as on-site decontamination, it has the added costs of having to transport contaminated material from the site, as well as the added risk to human health and the environment of spreading contamination to currently uncontaminated areas. Therefore, the site is the preferred location for performing decontamination activities. While off-site decontamination may still be possible, the alternatives developed herein assume on-site decontamination to be the most viable.

The roof structure is not considered capable of supporting the loads that would be imposed by rigging required to dismantle and remove the metal stamping presses. Therefore, the hoisting capability required to dismantle and remove the metal stamping presses will have to be supplied by either a portable gantry crane which could be maneuvered inside the building or by the selected demolition of the building which would allow access to the presses by a hydraulic crane.

- Alternative 1 - External cleaning and draining; disassembly; transport to a TSCA-permitted landfill for disposal; and proper disposal of residuals.
- Alternative 2 - External cleaning and draining; disassembly; gross decontamination; transport to an industrial landfill for disposal; and proper disposal of residuals.
- Alternative 3 - External cleaning and draining; disassembly; gross decontamination; transport to a scrap yard for segregation and subsequent meltdown; and proper disposal of residuals.
- Alternative 4 - External cleaning and draining; disassembly; gross decontamination; transport directly to a smelter for meltdown; and proper disposal of residuals.
- Alternative 5 - External cleaning and draining; disassembly; major decontamination; store on-site; and proper disposal of residuals.
- Alternative 6 - External cleaning draining; disassembly; major decontamination; sell for salvage, either intact or as parts; and proper disposal of residuals.

It should be noted that considerable effort has been expended to identify a use for the presses, both intact and as parts. At present, no such market has been identified and it appears unlikely that one exists.

4.4. PCB contaminated debris

As described above, the debris piles are comprised of a mixture of many different materials. The only material involved with any appreciable salvage value may be some of the metal. Therefore, one action would be to separate the recyclable metals from the "other" debris and sell the metal to a scrap dealer for subsequent meltdown. The other actions considered for the disposal of the material in its entirety are: "no action"; dispose at a TSCA-permitted landfill as PCB contaminated waste; decontaminate to less than 35 ppm and dispose of at an industrial landfill; or incinerate.

The "no action" option is not considered effective from the standpoint of the long term protection of human health and the environment and its lack of compliance with SCGs because it does not reduce the toxicity, mobility or volume of the contaminated debris. It is not considered further.

The "gate fee" for disposal at a TSCA-permitted landfill (quotation from Model City, NY Landfill) has been estimated at $250 per ton. The "gate fee" for disposal at a sanitary landfill has been estimated to be between $32 per ton (quotation from Lake View Landfill, Erie PA) and $44 per ton (quotation from Chautauqua County, NY Landfill). The estimated round trip distance from the site to: Model City is 400 miles; to Chautauqua County is 500 miles; and to Lake View is 600 miles.

Based on preliminary investigations, it appears that there may or may not be a railroad siding going into any given disposal facility. Therefore, it has been assumed that the rail cars will have to be unloaded at some siding near the selected facility and loaded onto trucks for final transport. During preliminary discussions, representatives of the NY Susquehanna and Western Railroad have indicated that rail transport between 200 and 400 miles will be from $1700 to $2700 per flat bed rail car. The quoted lading weight of a flat bed rail car is 60 tons, including the containers. Due to the irregular nature of the material, it has been assumed that the average weight of material per rail car will be 40 tons (10 tons per container, 4 containers per rail car). It has also been assumed that there will be additional costs at $0.40/ton mile and a round trip of 5 miles from the railroad siding to the disposal facility, as well as a cost for liners, when transporting hazardous waste, of $30/ton. It is assumed that there will be dedicated crane facilities available at the siding to transfer the loads from the rail cars to the trucks, at no extra cost.

Trucking costs have been estimated to be between $3 and $4 per load mile with another $300 per load for a lining, if carrying hazardous waste. It has been assumed that a truck load constitutes a container with 10 tons of material.

As summarized in Table 3 the estimated rail costs from the Site to: Model City range from $100 to $117/ton; Chautauqua County range from $116 to $138/ton; and Lake View range from $133 to $160/ton. The estimated trucking costs from the Site to: Model City range from $150-$190/ton; Chautauqua County range from $180-$230/ton; Lake View range from $210-$270/ton.

The SIR discussed one concept for potentially separating the debris piles. This concept involved the separation of visibly stained wood from unstained wood. The validity of this concept has been confirmed through sampling. But, the difference between "gate fees" at a TSCA-permitted landfill and an industrial landfill have been estimated to be between $206 and $218 per ton, plus up to $300 per load for a liner. The labor involved in separating the wood from the other debris, cutting off the stained portions and then taking a representative sample to confirm that the unstained material is less then 35 ppm PCBs, so that the wood could go to an industrial landfill, would cost more than $218 per ton. Therefore, this method is not considered cost effective.

No other pattern to the distribution of the contaminated material in the debris piles has been identified and the mixed and intertwined nature of the piles is such that there is no cost effective method of differentiating between "clean" debris and contaminated debris. Therefore, the contents of the debris piles in areas 2 and 3 are considered PCB contaminated waste.

The decontamination of the bulk of the materials mixed together in the debris, especially absorbent material, floor sweepings, wood, paper and cardboard is not considered technically feasible. The separation and decontamination of the metal debris is considered to be technically feasible. It is estimated that the metal debris can be cleaned to $\leq$100 ug/100 cm^2, which will allow disposal to: an industrial landfill; a scrap yard, for subsequent meltdown; and a smelter for meltdown. It should be noted that if the metal debris is either stored on-site or sold for direct use, then the required clean up level is $\leq$10 ug/100 cm^2. The potential salvage value of the recyclable metal debris has been estimated to be $35 per ton. The potential cost savings over TSCA-permitted disposal is $285 per ton, while also conserving landfill space. Thus, the separation of recyclable metal debris is considered a viable remedial action. The cost of incineration (estimated to be between $.50 and $1 per lb) is considered prohibitive when compared to the other actions. Incineration is considered appropriate only after the contamination has been concentrated during the draining of the presses and treatment of the wash water used for cleaning and decontamination.

Once emptied, the dumpsters could be cleaned and reused. Based on these remedial actions, six alternatives have been developed for further analysis:

- Alternative 1 - Do not separate debris; send all debris from areas 2 and 3 to a TSCA-permitted commercial chemical waste landfill.

- Alternative 2 - Separate the debris piles into recyclable metal and "other" categories; send "other" debris directly to a TSCA-permitted commercial chemical waste landfill; decontaminate the scrap metal to ≤100 μg/100 cm^2 and send to an industrial landfill; properly dispose of residuals.

- Alternative 3 - Separate the debris piles into recyclable metal and "other" categories; send "other" debris directly to a TSCA-permitted commercial chemical waste landfill; decontaminate the metal to ≤100 μg/100 cm^2 and sell to a scrap yard, for subsequent distribution to smelters for melt down; properly dispose of residuals.

- Alternative 4 - Separate the debris piles into recyclable metal and "other" categories; send "other" debris directly to a TSCA-permitted commercial chemical waste landfill; decontaminate the metal to ≤100 μg/100 cm^2 and sell directly to a smelter for melt down; properly dispose of residuals.

- Alternative 5 - Separate the debris piles into recyclable metal and "other" categories; send "other" debris directly to a TSCA-permitted commercial chemical waste landfill; decontaminate the metal to ≤10 μg/100 cm^2 and leave on-site; properly dispose of residuals.

- Alternative 6 - Separate the debris piles into recyclable metal and "other" categories; send "other" debris directly to a

TSCA-permitted commercial chemical waste landfill; decontaminate the metal to ≤10 μg/100 cm^2 and sell for direct reuse; properly dispose of residuals.

While the actual means and methods used to accomplish the work are at the contractors discretion, the following are some potential materials handling methods. For removing the debris from the building it has been assumed that there will be a crew (or crews), each consisting of a skid steer loader and two laborers. The laborers will guide the skid steer and attach chains or grapples to the debris which will then be dragged out of the building. This operation will have to be performed in a such a manner as to avoid damaging the columns supporting the roof. Once the debris is outside, another crew will separate the recyclable metals from the "other" material. The "other" material will be loaded into containers by a crane, for transportation to the disposal site. The recyclable metals will be moved to a central washing facility for decontamination. A potential method of decontamination is a high pressure, detergent wash. Following decontamination the recyclable metals will be loaded by a crane for transportation.

4.5. Grease lines

Originally, due to the difficulty in obtaining sufficient samples for laboratory analysis it was decided that the one sample collected would be analyzed as a hazardous waste. This sample indicated that the grease is a non-hazardous solid waste. Subsequently, further grease samples have been collected and analyzed. The results from this later analysis confirm that the grease lines can be disposed of as non-hazardous waste solid waste. Further testing will be at the contractors expense, as required by the disposal facility.

4.6. Mercury contaminated waste

The results of the TCLP analyses presented in the SIR indicate that one of the two samples collected from the drums contained 10.8 mg/l of mercury, and mercury was undetected in the other. It should be noted that the drums were labeled, by the USEPA during the emergency removal action, as mercury contaminated waste. Based on the TCLP results, the concentration of total mercury can be estimated by multiplying by a factor of 20. Therefore, the estimated concentration of total mercury is 216 mg/kg, which is close enough to 260 mg/kg to be of concern. Since this conversion cannot accurately predict total mercury and since the samples may not be truly representative, it is conservative to assume that the contents of all three drums are high sub-category mercury wastes and therefore, must be incinerated.

4.7. Asbestos containing material

The analytical results presented in the SIR indicate that the PCB concentrations detected in the ACM were below the 35 ppm project threshold for characterization as PCB waste. Therefore, the ACM can be disposed solely as asbestos waste. There are several actions for the disposal of asbestos waste which were considered. These actions are: no action; implementation of an asbestos operations and maintenance program; repair; encapsulation; enclosure; or removal.

The "no action" option is not considered viable from the standpoint of the short term protection of human health because it does not reduce the toxicity, mobility or volume of the ACM and is not compliant with SCGs. The no action alternative is not considered further for these reasons.

- Alternative 1 - Operations and Maintenance (O&M) program. An asbestos O&M program is intended to preserve ACM in good condition and to prevent or strictly control potential fiber release episodes.

- Alternative 2 - Repair. Repair of ACM is appropriate in restoring materials with minor damage to an intact condition. Repaired materials must be included in an O&M program to prevent future damage.

- Alternative 3 - Encapsulation. Encapsulation involves treating ACM with a binding or sealing agent and can be effective in preventing fiber release from friable ACM, which are most commonly surfacing materials such as architectural finishes or spray-applied fireproofing.

- Alternative 4 - Enclosure. Enclosure can be an effective measure for minimizing the potential for damage through physical contact, as well as minimizing the effect of fiber release from other sources of damage. Enclosure involves construction of an air-tight structure around ACM, into which no entrance can be permitted.

- Alternative 5 - Removal. Asbestos waste can be removed and disposed of in two manners. Friable waste requires double-bagging or containerizing in accordance with the requirements of Code Rule 56 and the National Emissions Standards for Hazardous Air Pollutants (NESHAP - 40 CFR 61, Subpart M). Friable asbestos waste will be transported, by a transporter holding a viable Part 364 permit, to a landfill permitted to accept friable waste under Part 360 or, for out-of-state landfills, other appropriate state requirements.

Nonfriable asbestos containing waste, specifically roofing and flooring materials not rendered friable by removal or demolition activities, requires containerization as necessary in order to comply with Code Rule 56 and any applicable or obtained variances. This waste will be transported and disposed of as construction and demolition debris, as permitted by NYSDEC.

One other option, for treatment of asbestos waste, that of melting in a specifically manufactured furnace to render the waste non-asbestiform, is not considered feasible for this project. There is no certified facility performing this operation in the region, and the quantity of waste generated is expected to be too small to justify installation and permitting of a mobile furnace unit. Therefore, disposal by this method is expected to be cost prohibitive, and will not be considered further.

4.8. Crates

Four options have been considered for the crates: "no action"; disposal in a TSCA-permitted landfill; separation of the metal from the wood, followed by the recycling of the metal and disposal of the wood in a sanitary landfill; and disposal of the entire crate in a sanitary landfill.

- Alternative 1 - The "no action" option is to leave the crates in-place, with no further remedial action taken.
- Alternative 2 - If it is determined that the PCB contamination on the crates is over the 35 ppm threshold, used for characterization as PCB waste for this project, then the crates could be disposed of in a TSCA-permitted landfill.
- Alternative 3 - In accordance with NYS SWMP, the metal components of the crates could be separated from the wood and recycled. The wood components would be disposed in a landfill.
- Alternative 4 - The remaining viable option is to dispose of the entire crate as solid waste.

5. Detailed technical and feasibility evaluation and cost effectiveness analysis

5.1. Selected building demolition

The following is a detailed evaluation of Alternatives 1, 2 and 3 as described in Chapter 4. By its very nature, Alternative 4 cannot be evaluated until after the contract has been awarded. See Table 4 for the estimated costs of Alternatives 1, 2 and 3.

- Alternative 1 - Although this Alternative would require the most demolition work, it would also reduce the costs associated with the removal of the metal stamping presses from the building and would provide a removal point within the boundaries of the Site which would have minimal impact on the local residences or the general public. Rigging efforts for press removal could be significantly reduced and the presses could be dismantled and loaded onto trucks. The equipment removal point would be the south end of the Press Room. This alternative has the advantage of limiting the spread of contamination off-site.

- Alternative 2 - For this Alternative, the presses would again be dismantled and loaded onto trucks. The equipment removal point would be the loading docks located adjacent to the Shipping Room in area 4. The maneuvering of equipment in the building would be more restricted under this Alternative than it would be under Alternative 1. Equipment removal through the loading docks could effect the flow of traffic along Noyes Street during removal operations and may promote the spread of contamination off the Site.

- Alternative 3 - For this alternative the equipment would be disassembled with the use of a portable gantry crane, loaded onto a rail system and transported to the loading docks adjacent to the Shipping Room, in area 4. Equipment removal through the loading docks could effect the flow of traffic along Noyes Street during removal operations and may promote the spread of contamination off the Site.

5.2. Metal stamping presses

The six alternatives, developed in Chapter 4, are considered in detail in Table 5. See Table 6 for a summary of the estimated costs and Table 7 for the estimated cost breakdown. These six alternatives each involve the following common actions: the draining and proper disposal of internal fluids, if the internal fluids contain more than 1000 ppm of PCB (to date, no fluid has tested >1,000 ppm) then the internal areas of the machine will be flushed with a solvent and the residuals will be disposed; external cleaning will be performed in place to limit worker exposure and the potential for the spread of contamination; each machine will be shrouded to limit the spread of contamination through splashing; disassembly of the machines; and proper disposal of residuals.

- Alternative 1 - Disposal in a TSCA-permitted landfill. This alternative is not considered to be as cost-effective as some of the other alternatives in that there are other disposal options which perform the same function at a lower capital cost and without filling limited TSCA-permitted landfill space.

- Alternative 2 - Gross decontamination followed by disposal in an industrial landfill. This Alternative, although specifically discussed in 40 CFR 761.60 and 6 NYCRR Part 371, is not considered to be as cost-effective as some of the other alternatives in that there are other disposal options which perform the same function at a lower capital cost and without filling limited landfill space.

- Alternative 3 - Gross decontamination followed by sale to a scrap dealer for distribution and subsequent melt down. This alternative is considered to be the most cost-effective.

- Alternative 4 - Gross decontamination followed by delivery directly to a foundry and/or steel mill for melt down, as appropriate. This option is not considered to be as favorable as Alternative 3 in that the various components of the machines could be more efficiently segregated and recycled by a scrap dealer. It is expected that a scrap dealer will have an established market and distribution network, and the contractor or the City will not.

- Alternative 5 - Perform a major decontamination, consistent with 40 CFR Part 761, Subpart G, on the disassembled machines and store on-site. This alternative is not considered cost-effective in that other alternatives achieve the remedial objectives without the added cost of major decontamination. Also, storage on-site may imply the need to move the scrap at some future date, when it may interfere with future site uses.

- Alternative 6 - Perform a major decontamination on all surfaces of the disassembled machines, consistent with 40 CFR Part 761 Subpart G, and reuse the machines, either intact or as parts. Discussions with a local machinery broker have indicated that the cost of refitting the machines to meet current OSHA regulations would be prohibitive. It also appears that any machine components of any worth were stolen, for salvage value, following the 1986 equipment auction. Also, the machine electrical wiring has been vandalized and removed. Therefore, it appears that this equipment has minimal value as machines or as parts. Even if there is a market, this alternative is not considered as cost-effective as some of the other alternatives in that other alternatives achieve the remedial objectives without the added cost of major decontamination.

5.3. PCB contaminated debris

The six alternatives, as developed in Chapter 4, are considered in detail in Table 8. See Table 9 for a summary of estimated costs and Table 10 for an estimated cost breakdown.

- Alternative 1 - Do not separate the debris; send all debris to a TSCA-permitted commercial chemical waste landfill. This alternative is not considered cost effective in that other alternatives achieve the remedial objectives at a lower capital cost.

- Alternative 2 - Separate the debris piles into recyclable metal and "other" categories; send "other" debris directly to a TSCA-permitted commercial chemical waste landfill; decontaminate the metal to ≤100 μg/100 cm^2 and send to an industrial landfill; properly dispose of residuals. This alternative is not considered cost effective in that Alternative 3 achieves the remedial objectives without the added costs of disposal of the metal in an industrial landfill.

- Alternative 3 - Separate the debris piles into recyclable metal and "other" categories; send "other" debris directly to a TSCA-permitted commercial chemical waste landfill; decontaminate the metal to ≤100 μg/100 cm^2 and sell to a scrap yard, for subsequent distribution and melt down; properly dispose of residuals.

- Alternative 4 - Separate the debris piles into recyclable metal and "other" categories; send "other" debris directly to a TSCA-permitted commercial chemical waste landfill; decontaminate the metal to ≤100 μg/100 cm^2 and sell directly to a smelter for melt down; properly dispose of residuals. This alternative is not considered as viable as Alternative 3, in that the various types of metal debris could be more efficiently segregated and recycled by a scrap dealer. It is expected that a scrap dealer will have an established market and distribution network, and the contractor and the City will not.

- Alternative 5 - Separate the debris piles into recyclable metal and "other" categories; send "other" debris directly to a TSCA-permitted commercial chemical waste landfill; decontaminate the metal to ≤10 μg/100 cm^2 and leave on-site; properly dispose of residuals. This alternative is not considered as cost effective as other options, in that other options achieve the remedial objectives without the added cost of major decontamination. Also, storage on-site may imply the need to move the scrap at some future date, when it may interfere with future remediation activities or site uses.

- Alternative 6 - Separate the debris piles into recyclable metal and "other" categories; send "other" debris directly to a TSCA-permitted commercial chemical waste landfill; decontaminate the metal to $\leq 10\ \mu g/100\ cm^2$ and sell for direct (unrestricted) reuse; properly dispose of residuals. It is expected that the metal debris will have little, if any, value for direct reuse. Even if a market does exist, this alternative is not considered as cost-effective as other options, in that other options achieve the remedial objectives without the added cost of major decontamination.

5.4. Grease lines

There is only one action for the disposal of this waste which is considered effective, disposal of the waste in a landfill permitted to accept solid waste. Within New York State this would require disposal in a Part 360-permitted landfill. Out-of-state disposal would require placement in a similar type of solid waste disposal facility.

5.5. Mercury contaminated waste

There appears to be only one action for the disposal of this waste which is considered effective, namely incineration as a high subcategory, mercury contaminated waste.

5.6. Asbestos containing material

The five alternatives developed in Chapter 4 are considered in detail in Table 11. See Table 12 for estimated cost breakdown.

- Alternative 1 - Operations and Maintenance (O&M) program. An asbestos O&M program is intended to preserve ACM in good condition and to prevent or strictly control potential fiber release episodes. Implementation of such a program is appropriate within a stable facility in which operations can be controlled such that activities which could potentially impact ACM are avoided or performed by trained personnel using appropriate asbestos methods and procedures. At the Site, much of the ACM present is in a deteriorated condition and would require abatement to restore it to an undamaged state. High potential for damage exists through much of the facility due to roof leaks or collapse, as well as through unintentional disturbance during other expected operations involving contractors and heavy equipment. While the work of outside contractors could be controlled with some difficulty to avoid damaging ACM, roof leaks and collapse make implementation of an O&M program impractical. The short-term costs of O&M are typically much lower than removal, though long-term costs may approach or exceed the costs of initial removal.

- Alternative 2 - Repair. Repair of ACM is appropriate in restoring materials with minor damage to an intact condition. Repaired materials must be included in an O&M program to prevent future damage. At the Site, an O&M program would be ineffective in preventing future water damage due to roof leaks, the potential for roof collapse and damage from other remediation activities. Repair is also inappropriate for several of the more severely damaged materials present. Therefore, repair is not a recommended abatement option.

- Alternative 3 - Encapsulation. Encapsulation involves treating ACM with a binding or sealing agent and can be effective in preventing fiber release from friable ACM, most commonly surfacing materials such as architectural finishes or spray-applied fireproofing. Encapsulation is generally ineffective against damage due to physical contact or deterioration from water. As physical contact and water damage are the two most likely causes of fiber release at the Site, this method of abatement would not be appropriate.

- Alternative 4 - Enclosure. Enclosure can be an effective measure for minimizing the potential for damage through physical contact, as well as minimizing the effect of fiber release from other sources of damage. Enclosure involves construction of an air-tight structure around ACM, into which no entrance can be permitted. Therefore, enclosure is not appropriate for ACM insulated items which could potentially require maintenance or in areas where entrance may become necessary at some future time. The majority of the ACM present at the Site is present in areas which, it is anticipated, will require access at some time and may also be in areas subject to demolition or partial building collapse, jeopardizing the requisite air-tight seal in enclosed areas. Therefore, enclosure is not expected to be a practical option at the Site.

- Alternative 5 - Removal. Removal is the only one of the five abatement options which permanently eliminates hazards associated with asbestos from the Site. Removal is appropriate for significantly damaged materials and for ACM with a high potential for damage such as is present at the Site. Short-term costs for removal are typically higher than for other abatement options. Long-term costs for removal may be lower, however, as each of the other options requires implementation of an O&M program to track and maintain ACM while removal does not. Removal also has the benefit of removing one environmental concern from remediation plans for the Site. Therefore, the only appropriate asbestos abatement option at the Site is removal. Removal can be performed as a single operation, reducing unit pricing somewhat, or in several phases.

    - Alternative 5a. Asbestos-containing material may be removed as a single operation during Phase I remediation. Initial removal would eliminate concerns of unintentional disturbance of ACM as well as coordination and hazard communication issues among the multiple entities on-site. Fiber release and exposure concerns by contractors on-site, and by area residents, would therefore be eliminated as early in the remedial construction project as necessary.

    - Alternative 5b. Removal of ACM can be accomplished in phases prior to demolition activities in each section of the building. Phased removal would minimize initial costs while still providing a measure of protection from fiber release episodes for contractors on-site, as well as area residents. Disadvantages of phased removal include an anticipated higher overall cost, primarily due to multiple mobilization operations for the asbestos removal contractor, and the potential for inadvertent disturbance of ACM by the work of other contractors.

Roofing materials found to contain asbestos may be removed under the terms of a project specific variance from Code Rule 56. Removal would be performed as a part of selected building demolition activities, and would include air monitoring to evaluate, and if necessary facilitate a response to, airborne fiber concentrations. Transportation and disposal of roofing would be performed in accordance with NYSDEC requirements for construction and demolition debris. Therefore, removal of roofing would be performed separately from other asbestos removal activities.

5.7. Crates

The four alternatives, developed in Section 4.8., are considered in more detail below.

- Alternative 1 - "No action" This option does not reduce the toxicity, mobility or volume of PCB contamination on the crates. Therefore, in the long term, the "no action" option is not considered to be protective of human health and the environment and will not be considered further.

- Alternative 2 - The analytical results presented in the SIR indicate that while PCB contamination was detected on the wood portion of the crates, it is below the 35 ppm threshold used for characterization as PCB waste, for this project. Therefore the crates can be disposed of as non-PCB waste and there is no need to incur the added cost of disposal in a TSCA-permitted landfill.

- Alternate 3 - While it is recognized that the effort necessary to separate the metal from the crates is likely to cost more than the salvage value of the metal, it is also recognized that the optimization of recycling is a goal of the NYS SWMP, therefore this option remains viable.

- Alternative 4 - The remaining viable option is to dispose of the entire crate as solid waste.

6. Recommended course of action

The following is a summary of recommendations for the Phase 1 from among the Analysis of Remedial Alternatives. These recommendations were prepared by the engineering consultants for the City of Utica to assist the City, NYSDOH and NYSDEC in the preparation of a PRAP and subsequently, with input from the public, a ROD for the Bossert site. The recommendations for remedial action (as listed below) have been designed, to the maximum extent practical, to meet the program criteria and objectives previously stated in this report.

- Removal and proper disposal of asbestos containing material (ACM) from the Bossert facility according to applicable regulatory requirements.

- Selective demolition of the building roof to provide a safer working environment during remediation and provide access to the metal stamping presses.

- External cleaning, disassembly, gross decontamination to a target level of 100 ug/100 cm^2, and sale of the metal stamping presses to a scrap dealer for subsequent segregation, distribution and meltdown.

- Segregation of contaminated debris into recyclable metal and "other" categories, decontamination of metal debris to a surface clean-up level of $\leq$100 ug/100 cm^2, disposal of the metal to a scrap dealer for subsequent segregation, distribution and meltdown, and disposal of the "other" debris at a landfill permitted to accept PCB contaminated debris.

- Disposal of the grease lines as solid waste.

- Disposal of PCB contaminated residuals, consistent with State and Federal requirements.

- Incineration of mercury contaminated waste, at a permitted mercury waste incinerator.
- Disposal of crates currently staged at the exterior of the Bossert building as solid waste at a permitted SWDF.
- Disposal of electrical transformer carcasses and associated components, located in the transformer room.
- Disposal of miscellaneous debris from the areas in which work has been performed.

7. Conceptual design and preliminary cost estimate

Design documents for the Phase I Remediation of the Bossert Facility will be developed pending the findings of the PRAP, public comments and the ROD. Until such time as those findings become available, the following concepts are offered for consideration. These concepts should by no means be construed as the final actions appropriate for the completion of the Phase I remediation, but are only offered as a basis from which preliminary design documents may be developed.

The City will develop Contract Documents, suitable for public bid, in conformance with municipal law and the requirements of the EQBA. The "front of the book" would follow O'Brien & Gere's standard format, with modifications as necessary. The technical sections will have a performance based format which will describe the alternatives selected and the remediation standards which must be attained. In general, there will be one specification for each task to be completed. The front of the book, technical sections, Payment Items and Contract Drawings will be coordinated to provide a biddable contract.

In general, the actual means and methods used to attain the specified standards will be the responsibility of the Contractor, but with the following provisions. The Contractor will be required to confirm, through pilot testing, that the selected decontamination method can meet the specified criteria for metal decontamination. If it is found that the Contractor's decontamination method cannot meet the specified criteria, he will then implement successive alternate methods, until either the criteria is met or it is decided that the specified cleanup criteria is unattainable.

For the purposes of regulatory compliance, the City will be the Generator of Record for materials removed from the Site. A representative of the City or its designee will sign the appropriate manifests before materials are transported off-site. The conceptual design will include the following tasks:

- The Contractor will be responsible for site safety during construction and will produce a site specific Health and Safety Manual.

- The Contractor will be responsible for continuous, on-site air quality monitoring and dust suppression program in accordance with NYSDEC TAGM HWR-89-4031.

- The Contractor will be responsible for the proper removal and disposal of the asbestos containing material.

- The Contractor will be responsible for selected building demolition and/or bracing. Demolition waste will be left on-site for disposal at a future date, or disposed of at the City's discretion.

- The Contractor will be responsible for the proper cleaning, removal and disposal of the metal stamping presses.

- The Contractor will be responsible for the proper segregation, decontamination and disposal of the recyclable metal debris. The Contractor will be responsible for the proper disposal of "other" non-structural debris, located in areas 2 and 3.

- The Contractor will be responsible for the proper disposal of the crates, grease lines, and drums containing mercury contaminated material.

- The Contractor will be responsible for the proper disposal of electrical transformer carcasses and associated components, located in the transformer room.

- The Contractor will be responsible for the proper disposal of miscellaneous debris from the Site.

- The Contractor will be responsible for the design, erection, operation, sampling, maintenance and disassembly of an on-site wash water treatment facility. Discharges will be in accordance with the requirements of the waste water discharge permit to be issued by the County of Oneida Department of Public Works will be stored, sampled, and analyzed before being trucked to the WWTP. Sample taps will be provided between each unit of the treatment line, so that the effectiveness of each process can be evaluated. If it is determined that the performance of a treatment unit is no longer acceptable, then the standby line will be used while that unit is replaced.

Prepared by:

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Scott M. Braymer - Design Engineer

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TABLE 1
ESTIMATED QUANTITIES OF MATERIALS
PHASE I - BOSSERT SITE, UTICA NY

MATERIAL	NUMBER OF UNITS	WEIGHT (average)	WEIGHT (total)	VOLUME (each)	VOLUME (total)	EPA HAZ WASTE CODE
Metal Stamping Presses	28	50 tons	1400 tons	111 cy	3111 cy	---
Recycable Metal Debris	---	---	1080 tons	---	250 cy (in place)	---
"Other" Debris	---	---	3087 tons	---	4750 cy (in place)	B007
Grease Lines	650 lf of 1/8" line	---	---	---	---	---
Mercury Contaminated Waste	---	---	---	55 gal	165 gal	D009
Crates	150	---	---	---	266 cy (in place)	---
Electrical Transformers	---	---	---	---	---	---
Miscellaneous Debris	---	---	100 tons	---	100 cy	---
PCB Contaminated Hydraulic Oil	---	---	---	---	---	B002
PCB Contaminated Residuals	---	---	---	---	---	B002

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TABLE 2
SUMMARY OF REGULATORY CRITERIA POTENTIALLY APPLICABLE OR APPROPRIATE FOR BOSSERT SITE REMEDIATION

Matrix	Dispensation Alternative	Regulation	Applicability	Criteria
Facility Foundation	Disposal In-place*	NYSDEC TAGM 4046	Appropriate	1 or 10 ppm
	Landfill Disposal	40 CFR Part 761.60 (TSCA) and 6NYCRR Part 376	Applicable	> 50 mg/kg → TSCA landfill < 50 mg/kg → municipal landfill
	Reuse	40 CFR Part 761.120 (TSCA PCB Spill Policy)	Appropriate	10 μg/100 cm^2
Facility Walls	Landfill Disposal	40 CFR Part 761.60 (TSCA) and 6NYCRR Parts 371, 376	Applicable	> 50 mg/kg → TSCA landfill < 50 mg/kg → municipal landfill
	Reuse	40 CFR Part 761.120 (TSCA PCB Spill Policy)	Appropriate	10 μg/100 cm^2
Presses	Reuse (whole)	40 CFR Part 761.30 (TSCA)	Applicable	Internal fluids < 50 ppm
	Reuse (parts)	40 CFR Part 761.120 (TSCA PCB Spill Policy)	Appropriate	10 μg/100 cm^2
	Metal Salvage	40 CFR Part 761.60 (TSCA) and 6NYCRR Parts 371, 376	Applicable	Drain and/or Internal Flush
	Landfill Disposal	40 CFR Part 761.60 (TSCA) and 6NYCRR Parts 371, 376	Applicable	Drain and/or Internal Flush
Porous Debris	Landfill Disposal	40 CFR Part 761.60 (TSCA) and 6NYCRR Part 376	Applicable	> 50 mg/kg → TSCA landfill < 50 mg/kg → municipal landfill
Metal Debris	Reuse	40 CFR Part 761.120 (TSCA PCB Spill Policy)	Appropriate	10 μg/100 cm^2
	Disposal	40 CFR Part 761.60 (TSCA) and 6NYCRR Part 371,372,376	Applicable	Drain and/or Internal Flush
Liquids	Incineration	40 CFR Part 761.60 (TSCA) and 6NYCRR Part 376	Applicable	50 - 500 ppm → optional > 500 ppm → required
Asbestos	Landfill Disposal	40 CFR Part 761.60 (TSCA)	Applicable	> 50 mg/kg → TSCA landfill < 50 mg/kg → municipal landfill

*Disposal in-place consists of retiring the foundation on-site after removal of the above-ground structure and treatment of the slab, if necessary. The Site may then be reused by covering the slab with topsoil or by using the slab as a subfloor for a new structure.

TABLE 3 – TRANSPORTATION
BOSSERT SITE, UTICA NY
SUMMARY OF ESTIMATED COSTS

Estimated weight per container (tons)	10

Estimated containers per load

By Railroad	4
By Truck	1

Range of estimated costs per load mile	(low)	(high)
By Railroad	$6.75	$8.50
By Truck	$3.00	$4.00

Estimated Round Trip (miles)

To Model City Landfill	400
To Chautauqua County Landfill	500
To Lakeview Landfill	600

Estimated liner costs (per ton)	$30.00

Added trucking costs for railroad option (per ton)	$2.00

Range of estimated rail costs per ton (w/ liner)	Railroad (low)	Railroad (high)
To Model City TSCA Landfill	$100	$117
To Chautauqua County Sanitary Landfill	$116	$138
To Lakeview Sanitary Landfill	$133	$160

Range of estimated trucking costs per ton (w/ liner)	Trucking (low)	Trucking (high)
To Model City Landfill	$150	$190
To Chautauqua County Landfill	$180	$230
To Lakeview Landfill	$210	$270

TABLE 4 - SELECTED BUILDING DEMOLITION
BOSSERT SITE, UTICA NY
ESTIMATED COSTS

ALTERNATIVE 1

Description	Quantity	Units	Unit Cost	Cost
Roof ACM	15,100	sf	$2.00	$30,200
Roofing	69,000	sf	$0.65	$44,850
Masonry	5,500	cf	$0.21	$1,155
Walls (Cooling & Annealing Rooms)	5,000	sf	$1.40	$7,000
Girders & Roof Beams	7,400	lf	$6.00	$44,400
Columns	3,100	lf	$6.00	$18,600
Bracing/Sheeting	20,000	ls	$1.00	$20,000
Move Debris	10,000	ls	$1.00	$10,000
Subtotal - Direct Capital Costs				$176,205

ALTERNATIVE 2

Description	Quantity	Units	Unit Cost	Cost
Roof ACM	14,300	sf	$2.00	$28,600
Roofing	51,000	sf	$0.65	$33,150
Masonry	3,000	cf	$0.21	$630
Walls (Cooling & Annealing Rooms)	0	sf	$1.40	$0
Girders & Roof Beams	6,100	lf	$6.00	$36,600
Columns	2,300	lf	$6.00	$13,800
Bracing/Sheeting	20,000	ls	$1.00	$20,000
Move Debris	7,500	ls	$1.00	$7,500
Subtotal - Direct Capital Costs				$140,280

ALTERNATIVE 3

Description	Quantity	Units	Unit Cost	Cost
Roofing	16,100	sf	$0.65	$10,465
Masonry	0	cf	$0.21	$0
Walls (Cooling & Annealing Rooms)	0	sf	$1.40	$0
Girders & Roof Beams	2,100	lf	$6.00	$12,600
Columns	1,000	lf	$6.00	$6,000
Bracing/Sheeting	15,000	ls	$1.00	$15,000
Move Debris	2,000	ls	$1.00	$2,000
Subtotal - Direct Capital Costs				$46,065

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Table 5
Detailed Analysis of Remedial Alternatives
Metals Stamping Presses
Phase I
Bossert Site, Utica NY

	Alternative 1 External cleaning, draining, disassembly, transport to a TSCA-permitted landfill for disposal, properly dispose of residuals from cleaning.	Alternative 2 External cleaning, draining, disassembly, gross decon (target level of 100 ug/100 cm²), transport to an industrial landfill for disposal, properly dispose of residuals from cleaning.	Alternative 3 External cleaning, draining, disassembly, gross decon (target level of 100ug/100 cm²), transport to a scrap yard for recycling and subsequent meltdown, properly dispose of residuals from cleaning.	Alternative 4 External cleaning, draining, disassembly, gross decon (target level of 100 ug/100 cm²), transport directly to a smelter for melt down, properly dispose of residuals from cleaning.	Alternative 5 External cleaning, draining, disassembly, major decon (≤10ug/100cm²), store onsite, properly dispose of residuals from cleaning.	Alternative 6 External cleaning, draining, disassembly, major decon (≤10ug/100 cm²), sell for salvage either intact or as parts, properly dispose of residuals from cleaning.
OVERALL PROTECTION OF HUMAN HEALTH AND THE ENVIRONMENT						
Protection of Human Health	Fencing will continue to minimize access to the study area and disturbance of contaminated material. On-site real time air quality monitoring and/or the use of dust suppression techniques may be required during remedial construction both for the protection of on-site workers and the general public. The use of appropriate protective equipment during remedial activities will minimize potential threat to remedial workers. Transporting contaminated material to a TSCA-permitted commercial chemical landfill will minimize direct human contact with PCBs. Potential hazards to humans due to transportation of PCB contaminated material to the commercial chemical landfill and/or incinerator.	Fencing will continue to minimize access to the study area and disturbance of contaminated material. On-site real time air quality monitoring and/or the use of dust suppression techniques may be required during remedial construction both for the protection of on-site workers and the general public. The use of appropriate protective equipment during remedial activities will minimize potential threat to remedial workers. Transporting contaminated material to a commercial landfill will minimize direct human contact with PCBs. Potential hazards to humans due to transportation of PCB contaminated material to the commercial landfill and/or incinerator.	Fencing will continue to minimize the potential for ingestion of or contact with contaminated material. On-site real time air quality monitoring and/or the use of dust suppression techniques may be required during remedial construction both for the protection of on-site workers and the general public. The use of appropriate protective equipment during remediation will minimize potential threat to workers. Potential hazards to humans due to transportation of PCB contaminated material to the scrap dealer and residuals to landfill or incinerator.	Fencing will continue to minimize the potential for ingestion of or contact with contaminated material. On-site real time air quality monitoring and/or the use of dust suppression techniques may be required during remedial construction both for the protection of on-site workers and the general public. The use of appropriate protective equipment during remediation will minimize potential threat to workers. Potential hazards to humans due to transportation of PCB contaminated material to the smelter and residuals to incinerator or landfill.	Fencing will continue to minimize the potential for ingestion of or contact with contaminated material during remediation. On-site real time air quality monitoring and/or the use of dust suppression techniques may be required during remedial construction both for the protection of on-site workers and the general public. The use of appropriate protective equipment during remediation will minimize potential threat to workers. Potential hazards to humans due to transportation of PCB contaminated residuals to incinerator or landfill.	Fencing will continue to minimize the potential for ingestion of or contact with contaminated material during remediation. On-site real time air quality monitoring and/or the use of dust suppression techniques may be required during remedial construction both for the protection of on-site workers and the general public. The use of appropriate protective equipment during remediation will minimize potential threat to workers. Potential hazards to humans due to transportation of PCB contaminated residuals to incinerator or landfill.
Protection of Environment	Landfilling of material and incineration of residuals will minimize contact with PCBs by ecological receptors. Potential for hazards to the environment due to transportation of contaminated material to commercial chemical landfill and residuals to an incinerator.	Landfilling of material and incineration of residuals will minimize contact with PCBs by ecological receptors. Potential for hazards to the environment due to transportation of contaminated material to commercial landfill and incinerator.	Recycling of material and incineration of residuals will minimize contact with PCBs by ecological receptors. Potential for hazards to the environment due to transportation of contaminated material to scrap yard and residuals to an incinerator.	Reuse of material and incineration of residuals will minimize contact with PCBs by ecological receptors. Potential for hazards to the environment due to transportation of contaminated material to scrap yard and residuals to an incinerator.	Major decon of material and incineration of residuals will minimize contact with PCBs by ecological receptors.	Major decon of material and incineration of residuals will minimize contact with PCBs by ecological receptors.
COMPLIANCE WITH SCGs						
Chemical-Specific SCGs	Consistent with Part 371, in that the machines with PCB concentrations <1000 ppm will be drained and machines with PCB concentrations ≥1000 ppm will be drained and flushed with a solvent.	Consistent with Part 371, in that the machines with PCB concentrations <1000 ppm will be drained and machines with PCB concentrations ≥1000 ppm will be drained and flushed with a solvent.	Consistent with Part 371, in that the machines with PCB concentrations <1000 ppm will be drained and machines with PCB concentrations ≥1000 ppm will be drained and flushed with a solvent.	Consistent with Part 371, in that the machines with PCB concentrations <1000 ppm will be drained and machines with PCB concentrations ≥1000 ppm will be drained and flushed with a solvent.	Consistent with Part 371, in that the machines with PCB concentrations <1000 ppm will be drained and machines with PCB concentrations ≥1000 ppm will be drained and flushed with a solvent. Consistent with Part 761, in that the surfaces will be cleaned to ≤10ug/100 cm² as required for high contact surfaces.	Consistent with Part 371, in that the machines with PCB concentrations <1000 ppm will be drained and machines with PCB concentrations ≥1000 ppm will be drained and flushed with a solvent. Consistent with Part 761, in that the surfaces will be cleaned to ≤10ug/100 cm² as required for high contact surfaces.

Table 5
Detailed Analysis of Remedial Alternatives
Metals Stamping Presses
Phase I
Bossert Site, Utica NY

	Alternative 1 External cleaning, draining, disassembly, transport to a TSCA-permitted landfill for disposal, properly dispose of residuals from cleaning.	Alternative 2 External cleaning, draining, disassembly, gross decon (target level of 100 µg/100 cm^2), transport to an industrial landfill for disposal, properly dispose of residuals from cleaning.	Alternative 3 External cleaning, draining, disassembly, gross decon (target level of 100µg/100 cm^2), transport to a scrap yard for recycling and subsequent meltdown, properly dispose of residuals from cleaning.	Alternative 4 External cleaning, draining, disassembly, gross decon (target level of 100 µg/100 cm^2), transport directly to a smelter for melt down, properly dispose of residuals from cleaning.	Alternative 5 External cleaning, draining, disassembly, major decon (≤10µg/100cm^2), store onsite, properly dispose of residuals from cleaning.	Alternative 6 External cleaning, draining, disassembly, major decon (≤10µg/100 cm^2), sell for salvage either intact or as parts, properly dispose of residuals from cleaning.
Location-Specific SCGs	Consistent with Part 375, in that this alternative eliminates or mitigates significant threats to human health and the environment through cleaning, draining and proper disposal of the machines in a TSCA-permitted landfill as well as the proper disposal of any residuals created.	Consistent with Part 375, in that this alternative eliminates or mitigates significant threats to human health and the environment through cleaning, draining, gross decon and proper disposal of the machines in an industrial landfill as well as the proper disposal of any residuals created.	Consistent with Part 375, in that this alternative eliminates or mitigates significant threats to human health and the environment through cleaning, draining, gross decon and transport of the machines to a scrap yard for subsequent melt down, as well as the proper disposal of any residuals created.	Consistent with Part 375, in that this alternative eliminates or mitigates significant threats to human health and the environment through cleaning, draining, gross decon and transport of the machines to a smelter for melt down, as well as the proper disposal of any residuals created.	Consistent with Part 375, in that this alternative eliminates or mitigates significant threats to human health and the environment through cleaning, draining, major decon and storage of the machines on-site, as well as the proper disposal of any residuals created.	Consistent with Part 375, in that this alternative eliminates or mitigates significant threats to human health and the environment through cleaning, draining, major decon and sale of the machines, as well as the proper disposal of any residuals created.
Action-Specific SCGs	Particulate air quality standard will be attained through real-time, on-site air quality monitoring and the proper implementation of a dust suppression program. OSHA requirements would be met during remediation. Manifesting will meet the requirements of Part 372. Part 364 requirements will be attained during transportation. Disposal facilities will meet the requirements of Part 373.	Particulate air quality standard will be attained through real-time, on-site air quality monitoring and the proper implementation of a dust suppression program. OSHA requirements would be met during remediation. Manifesting will meet the requirements of Part 372. Part 364 requirements will be attained during transportation. Disposal facilities will meet the requirements of Part 373.	Particulate air quality standard will be attained through real-time, on-site air quality monitoring and the proper implementation of a dust suppression program. OSHA requirements would be met during remediation. Manifesting will meet the requirements of Part 372. Part 364 requirements will be attained during transportation. Disposal facilities will meet the requirements of Part 373.	Particulate air quality standard will be attained through real-time, on-site air quality monitoring and the proper implementation of a dust suppression program. OSHA requirements would be met during remediation. Manifesting will meet the requirements of Part 372. Part 364 requirements will be attained during transportation. Disposal facilities will meet the requirements of Part 373.	Particulate air quality standard will be attained through real-time, on-site air quality monitoring and the proper implementation of a dust suppression program. OSHA requirements would be met during remediation. Manifesting will meet the requirements of Part 372. Part 364 requirements will be attained during transportation. Disposal facilities will meet the requirements of Part 373.	Particulate air quality standard will be attained through real-time, on-site air quality monitoring and the proper implementation of a dust suppression program. OSHA requirements would be met during remediation. Manifesting will meet the requirements of Part 372. Part 364 requirements will be attained during transportation. Disposal facilities will meet the requirements of Part 373.
LONG-TERM EFFECTIVENESS AND PERMANENCE						
Magnitude of Residual Risk	This alternative is considered to have a low magnitude of residual risk. Short term risk will be reduced through continued maintenance of fences, signs and locks. Long term risk will be reduced through external cleaning, draining, disposal of the machines in a landfill; as well as incineration or landfilling of PCB contaminated residuals.	This alternative is considered to have a low magnitude of residual risk. Short term risk will be reduced through continued maintenance of fences, signs and locks. Long term risk will be reduced through external cleaning, draining, disposal of the machines in a landfill; as well as incineration or landfilling of PCB contaminated residuals.	This alternative is considered to have the lowest magnitude of residual risk. Short term risk will be reduced through continued maintenance of fences, signs and locks. Long term risk will be reduced through external cleaning, draining, gross decon and eventual melt down of the machines; as well as incineration or landfilling of PCB contaminated residuals.	This alternative is considered to have the lowest magnitude of residual risk. Short term risk will be reduced through continued maintenance of fences, signs and locks. Long term risk will be reduced through external cleaning, draining, gross decon and eventual melt down of the machines; as well as incineration or landfilling of PCB contaminated residuals.	This alternative is considered to have a low magnitude of residual risk. Short term risk will be reduced through continued maintenance of fences, signs and locks. Long term risk will be reduced through external cleaning, draining, and major decon of the machines; as well as incineration or landfilling of PCB contaminated residuals.	This alternative is considered to have a low magnitude of residual risk. Short term risk will be reduced through continued maintenance of fences, signs and locks. Long term risk will be reduced through external cleaning, draining, and major decon of the machines; as well as incineration or landfilling of PCB contaminated residuals.
Adequacy and Reliability of Controls	Fencing is considered adequate and reliable in restricting activities resulting in potential ingestion of or contact with contaminated material. Several methods of decon are reliable in separation of contaminants from metal surfaces. Land disposal, when properly implemented, is considered a reliable remedial measure. Several methods of disposal are considered to be effective and reliable for residuals.	Fencing is adequate and reliable in restricting activities resulting in potential ingestion of or contact with contaminated material. Several methods of decon are reliable in separation of contaminants from metal surfaces. Land disposal, when properly implemented, is considered a reliable remedial measure. Several methods of disposal are considered to be effective and reliable for residuals.	Fencing is considered adequate and reliable in restricting activities resulting in potential ingestion of or contact with contaminated material. Several methods of decon are reliable in separation of contaminants from metal surfaces. Meltdown of metals is considered a reliable and effective remedial measure. Several methods of disposal are considered to be effective and reliable for residuals.	Fencing is considered adequate and reliable in restricting activities resulting in potential ingestion of or contact with contaminated material. Several methods of decon are reliable in separation of contaminants from metal surfaces. Meltdown of metals is considered a reliable and effective remedial measure. Several methods of disposal are considered to be effective and reliable for residuals.	Fencing is considered adequate and reliable in restricting activities resulting in potential ingestion of or contact with contaminated material. Several methods of decon are reliable in separation of contaminants from metal surfaces. Several methods of disposal are considered to be effective and reliable for residuals.	Fencing is considered adequate and reliable in restricting activities resulting in potential ingestion of or contact with contaminated material. Several methods of decon are reliable in separation of contaminants from metal surfaces. Several methods of disposal are considered to be effective and reliable for residuals.

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	Alternative 1 External cleaning, draining, disassembly, transport to a TSCA-permitted landfill for disposal, properly dispose of residuals from cleaning.	Alternative 2 External cleaning, draining, disassembly, gross decon (target level of 100 ug/100 cm^2), transport to an industrial landfill for disposal, properly dispose of residuals from cleaning.	Alternative 3 External cleaning, draining, disassembly, gross decon (target level of 100ug/100 cm^2), transport to a scrap yard for recycling and subsequent meltdown, properly dispose of residuals from cleaning.	Alternative 4 External cleaning, draining, disassembly, gross decon (target level of 100 ug/100 cm^2), transport directly to a smelter for melt down, properly dispose of residuals from cleaning.	Alternative 5 External cleaning, draining, disassembly, major decon (≤10ug/100cm ^{2}), store onsite, properly dispose of residuals from cleaning.	Alternative 6 External cleaning, draining, disassembly, major decon (≤10ug/100 cm^2), sell for salvage either intact or as parts, properly dispose of residuals from cleaning.
REDUCTION OF TOXICITY, MOBILITY OR VOLUME THROUGH TREATMENT						
Treatment Process Used and Materials Treated	External cleaning and draining of machines. Proper disposal of residuals.	External cleaning, draining and gross decon of machines. Proper disposal of residuals.	External cleaning, draining and gross decon of machines. Proper disposal of residuals.	External cleaning, draining and gross decon of machines. Proper disposal of residuals.	External cleaning, draining and major decon of machines. Proper disposal of residuals.	External cleaning, draining and major decon of machines. Proper disposal of residuals.
Amount of Hazardous Material Destroyed or Treated	External cleaning and draining should remove visible signs of contamination.	External cleaning, draining and gross decon should reduce PCB contamination to a target level of 100 ug/100 cm^2.	Over the short term external cleaning, draining and gross decon should reduce PCB contamination to a target level of 100 ug/100 cm^2. Melt down of the machines should destroy 99.999% of the remaining PCB contamination.	Over the short term external cleaning, draining and gross decon should reduce PCB contamination to a target level of 100 ug/100 cm^2. Melt down of the machines should destroy 99.999% of the remaining PCB contamination.	External cleaning, draining and major decon should reduce PCB contamination to <10 ug/100 cm^2.	External cleaning, draining and major decon should reduce PCB contamination to <10 ug/100 cm^2.
Degree of Expected Reduction of Toxicity, Mobility or Volume	The overall degree of reduction is expected to be the least for the alternatives presented. Volume of contamination on the machines will be reduced through external cleaning and draining. Mobility of the contamination remaining on the machines will be reduced by disposal in a landfill. Either the toxicity of residuals will reduced by treatment; or the mobility of residuals will be reduced by landfilling.	The overall degree of reduction is expected to be greater than Alt 1 but less than Alts 3,4,5,& 6. Volume of contamination on the machines will be reduced through external cleaning, draining and gross decon. Mobility of the contamination remaining on the machines will be reduced by disposal in a landfill. Either the toxicity of residuals will reduced by treatment; or the mobility of residuals will be reduced by landfilling.	The overall degree of reduction is expected to be the highest with this alternative. Over the short term the volume of contamination on the machines will be reduced through external cleaning, draining and gross decon. Eventually the contamination remaining on the machines will be destroyed during meltdown. Either the toxicity of residuals will reduced by treatment; or the mobility of residuals will be reduced by landfilling.	The overall degree of reduction is expected to be the highest with this alternative. Over the short term the volume of contamination on the machines will be reduced through external cleaning, draining and gross decon. Eventually the contamination remaining on the machines will be destroyed during meltdown. Either the toxicity of residuals will reduced by treatment; or the mobility of residuals will be reduced by landfilling.	The overall degree of reduction is expected to be higher than Alt 2, but below Alts 3 & 4. The volume of contamination on the machines will be reduced through external cleaning, draining and major decon. Either the toxicity of residuals will reduced by treatment; or the mobility of residuals will be reduced by landfilling.	The overall degree of reduction is expected to be higher than Alt 2, but below Alts 3 & 4. The volume of contamination on the machines will be reduced through external cleaning, draining and major decon. Either the toxicity of residuals will reduced by treatment; or the mobility of residuals will be reduced by landfilling.
Degree to Which Treatment is Irreversible	Landfilling is expected to be somewhat reversible process for the machines, since theoretically the machines could be recovered from the landfill. Treatment of residuals is considered to be irreversible.	Landfilling is expected to be somewhat reversible process for the machines, since theoretically the machines could be recovered from the landfill. Treatment of residuals is considered to be irreversible.	Meltdown of the machines is an irreversible process. Treatment of residuals is also considered to be irreversible.	Meltdown of the machines is an irreversible process. Treatment of residuals is also considered to be irreversible.	Storage on-site is considered the most easily reversible alternative for the machines. Treatment of residuals is considered to be irreversible.	Salvage after resale is expected to be somewhat reversible for the machines, if the location of the machines is kept on record. Treatment of residuals is considered to be irreversible.
Type and Quantity of Residuals Remaining After Treatment	PCB contamination of interior and hidden surfaces. If decon residuals are incinerated, then ash is expected to be a residual from that process.	PCB contamination of interior and hidden surfaces. If decon residuals are incinerated, then ash is expected to be a residual from that process.	PCB contamination of interior and hidden surfaces may persist until meltdown, but is unlikely to remain after meltdown. If decon residuals are incinerated, then ash is expected to be a residual from that process.	PCB contamination of interior and hidden surfaces may persist until meltdown, but is unlikely to remain after meltdown. If decon residuals are incinerated, then ash is expected to be a residual from that process.	PCB contamination of interior and hidden surfaces may or may not persist even following a very through decontamination process. If decon residuals are incinerated, then ash is expected to be a residual from that process.	PCB contamination of interior and hidden surfaces may or may not persist even following a very through decontamination process. If decon residuals are incinerated, then ash is expected to be a residual from that process.

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SHORT-TERM EFFECTIVENESS						
Protection of Community During Remedial Actions	Community will be restricted from access to study area. Continuous, real time, air quality monitoring, in conjunction with a dust suppression program, will help protect the adjoining community from the off-site migration of dust during site remediation.	Community will be restricted from access to study area. Continuous, real time, air quality monitoring, in conjunction with a dust suppression program, will help protect the adjoining community from the off-site migration of dust during site remediation.	Community will be restricted from access to study area. Continuous, real time, air quality monitoring, in conjunction with a dust suppression program, will help protect the adjoining community from the off-site migration of dust during site remediation.	Community will be restricted from access to study area. Continuous, real time, air quality monitoring, in conjunction with a dust suppression program, will help protect the adjoining community from the off-site migration of dust during site remediation.	Community will be restricted from access to study area. Continuous, real time, air quality monitoring, in conjunction with a dust suppression program, will help protect the adjoining community from the off-site migration of dust during site remediation.	Community will be restricted from access to study area. Continuous, real time, air quality monitoring, in conjunction with a dust suppression program, will help protect the adjoining community from the off-site migration of dust during site remediation.
Protection of Workers During Remedial Actions	Appropriate protective equipment will be used during remediation and transport.	Appropriate protective equipment would be utilized during remediation and transport.	Appropriate protective equipment would be utilized during remediation and transport.	Appropriate protective equipment would be utilized during remediation and transport.	Appropriate protective equipment would be utilized during remediation.	Appropriate protective equipment would be utilized during remediation.
Environmental Impacts	Contaminant transport during remediation would be minimized through appropriate methods such as: shrouding during decon; common on-site routes for of movement contaminated materials; vehicle washing before leaving the site; and dust control.	Contaminant transport during remediation would be minimized through appropriate methods such as: shrouding during decon; common on-site routes for of movement contaminated materials; vehicle washing before leaving the site; and dust control.	Contaminant transport during remediation would be minimized through appropriate methods such as: shrouding during decon; common on-site routes for of movement contaminated materials; vehicle washing before leaving the site; and dust control.	Contaminant transport during remediation would be minimized through appropriate methods such as: shrouding during decon; common on-site routes for of movement contaminated materials; vehicle washing before leaving the site; and dust control.	Contaminant transport during remediation would be minimized through appropriate methods such as: shrouding during decon; common on-site routes for of movement contaminated materials; vehicle washing before leaving the site; and dust control.	Contaminant transport during remediation would be minimized through appropriate methods such as: shrouding during decon; common on-site routes for of movement contaminated materials; vehicle washing before leaving the site; and dust control.
Time Until Remedial Action Objectives Are Achieved	Immediately following implementation. (1 construction season).	Immediately following implementation (1 construction season).	Immediately following implementation (1 construction season).	Immediately following implementation (1 construction season).	Immediately following implementation (1 construction season).	Immediately following implementation (1 construction season).
IMPLEMENTABILITY						
Ability to Construct and Operate the Technology	External cleaning, draining, disassembly, landfilling, transport and residual treatment are implementable. Fence locks, warning signs and maintenance already implemented.	External cleaning, draining, disassembly, landfilling, transport and residual treatment are implementable. Fence locks, warning signs and maintenance already implemented.	External cleaning, draining, disassembly, transport, recycling and residual treatment are implementable. Fence locks, warning signs and maintenance already implemented.	External cleaning, draining, disassembly, transport, smelting and residual treatment are implementable. Fence locks, warning signs and maintenance already implemented.	External cleaning, draining, disassembly, major decon, on-site storage and residual treatment are implementable. Fence locks, warning signs and maintenance already implemented.	External cleaning, draining, disassembly, major decon, reuse and residual treatment are implementable. Fence locks, warning signs and maintenance already implemented.
Reliability of Technology	External cleaning, draining, disassembly, landfilling, transport, treatment of residuals and fencing are reliable.	External cleaning, draining, disassembly, landfilling, transport, treatment of residuals and fencing are reliable.	External cleaning, draining, disassembly, transport, recycling, treatment of residuals and fencing are reliable.	External cleaning, draining, disassembly, transport, smelting, treatment of residuals and fencing are reliable.	External cleaning, draining, disassembly, major decon, storage on-site, treatment of residuals and fencing are reliable.	External cleaning, draining, disassembly, major decon, reuse, treatment of residuals and fencing are reliable.
Ease of Undertaking Additional Remedial Actions, If Necessary	Additional remedial actions readily implemented.	Additional remedial actions readily implemented.	Additional remedial actions readily implemented.	Additional remedial actions readily implemented.	Additional remedial actions maybe hampered by on-site storage.	Additional remedial actions readily implemented.
Ability to Monitor Effectiveness of Remedy	Resampling of surfaces would indicate remaining levels of contamination.	Resampling of surfaces would indicate remaining levels of contamination.	Resampling of surfaces would indicate remaining levels of contamination. Meltdown of the machines (or components) should eliminate any residual contamination.	Resampling of surfaces would indicate remaining levels of contamination. Meltdown of the machines (or components) should eliminate any residual contamination.	Resampling of surfaces would indicate remaining levels of contamination.	Resampling of surfaces would indicate remaining levels of contamination.

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Coordination With Other Agencies	Coordination between City of Utica, NYSDOH, NYSDEC, NYSDOT and USEPA necessary to implement remediation and disposal.	Coordination between City of Utica, NYSDOH, NYSDEC, NYSDOT and USEPA necessary to implement remediation and disposal.	Coordination between City of Utica, NYSDOH, NYSDEC, NYSDOT and USEPA necessary to implement remediation and recycling.	Coordination between City of Utica, NYSDOH, NYSDEC, NYSDOT and USEPA necessary to implement remediation and smelting.	Coordination between City of Utica, NYSDOH, NYSDEC and USEPA necessary to implement remediation and on-site storage.	Coordination between City of Utica, NYSDOH, NYSDEC and USEPA necessary to implement remediation and reuse.
Availability of Offsite Treatment, Storage and Disposal Services and Capacities	Landfill and treatment facilities and capacity expected to be readily available.	Landfill and treatment facilities and capacity expected to be readily available.	Scrap yard and treatment facilities and capacity expected to be readily available.	To date no smelting facilities willing to accept this material directly have been identified. Treatment facilities and capacity for are expected to be available.	Treatment facility and capacity expected to be readily available.	To date no market for reuse of this equipment has been identified. Treatment facilities and capacity for are expected to be available.
Availability of Necessary Equipment, Specialists and Materials	Equipment, material and personnel for decon, disassembly and transportation expected to be readily available	Equipment, material and personnel for decon, disassembly and transportation expected to be readily available	Equipment, material and personnel for decon, disassembly and transportation expected to be readily available.	Equipment, material and personnel for decon, disassembly and transportation expected to be readily available.	Equipment, material and personnel for decon, disassembly and on-site storage expected to be readily available.	Equipment, material and personnel for decon, disassembly and transportation expected to be readily available.
Availability of Prospective Technologies	Readily available.	Readily available.	Readily available.	Readily available.	Readily available.	Readily available.
COST						
Capital Costs	$856,400	$690,250	$355,650	$355,650	$440,210	$447,210
STATE ACCEPTANCE						
To be documented in the Record of Decision (ROD).						
COMMUNITY ACCEPTANCE						
To be assessed following the public comment period and documented in the Responsiveness Summary and the ROD.						

TABLE 6 - METAL STAMPING PRESSES
BOSSERT SITE, UTICA NY
SUMMARY OF ESTIMATED COSTS
Note: ($) represents credit to Owner

	Alternative 1 TSCA Landfill	Alternative 2 Sanitary Landfill	Alternative 3 Scrap Yard/meltdown	Alternative 4 Direct to Smelter	Alternative 5 Store On-site	Alternative 6 Direct reuse
External Cleaning	$120,270	$120,270	$120,270	$120,270	$120,270	$120,270
Disassembly	$120,130	$120,130	$120,130	$120,130	$120,130	$120,130
Gross Decon	----	$108,250	$108,250	$108,250	----	----
Major Decon	----	----	----	----	$199,810	$199,810
Transportation	$266,000	$280,000	$56,000	$56,000	----	$56,000
Disposal	$350,000	$61,600	($49,000)	($49,000)	----	($49,000)
Subtotal - Direct Capital Costs	$856,400	$690,250	$355,650	$355,650	$440,210	$447,210

TABLE 7 - METAL STAMPING PRESSES
BOSSERT SITE, UTICA NY
ESTIMATED COST BREAKDOWN
Note: ($) represents credit to Owner

Description	Quantity	Units	Unit Cost	Cost
External Cleaning				
Draining	1	ls	$1,320	$1,320
Scaffolding	150	ccf	$74	$11,100
Shrouding	70000	sf	$0.50	$35,000
Washers	2	ea	$2,000	$4,000
Labor	85	crew day	$750	$63,750
PPE	85	crew day	$60	$5,100
Subtotal				$120,270
Disassembly				
Torch	2800	lf	$27.50	$77,000
Crane	4	month	$3,600	$14,400
Operator	85	day	$166	$14,110
Rigger w/ PPE	85	day	$172	$14,620
Subtotal				$120,130
Decontamination				
Central Facility	1	ls	$5,000	$5,000
Washers	2	ea	$2,000	$4,000
Shrouding	2500	sf	$0.50	$1,250
On-site transport	280	load	$23	$6,440
Labor for Gross Decon (w/ PPE)	56	crew/day	$810	$45,360
Sampling for Gross Decon	28	machine	$1,650	$46,200
Labor for Major Decon (w/ PPE)	112	crew/day	$810	$90,720
Sampling for Major Decon	28	machine	$3,300	$92,400
Subtotal - Gross Decon				$108,250
Subtotal - Major Decon				$199,810
Transportation				
Truck to scrap yard (w/o liner)				
100 Mile Round Trip	140	load	$400	$56,000
Truck to TSCA landfill (w/liner)				
400 Mile Round Trip	140	load	$1,900	$266,000
Truck to sanitary landfill (w/o liner)				
500 Mile Round Trip	140	load	$2,000	$280,000
Disposal				
TSCA Landfill	1400	ton	$250	$350,000
Sanitary Landfill	1400	ton	$44	$61,600
Scrap Yard	1400	ton	($35)	($49,000)
Smelting	1400	ton	($35)	($49,000)
Store On-site	1400	ton	-----	$0
Reuse	1400	ton	($35)	($49,000)

Table 8
Detailed Analysis of Remedial Alternatives
PCB Contaminated Debris
Phase I
Bossert Site, Utica NY

	Alternative 1 Do not separate debris; send all debris to TSCA-permitted commercial chemical waste landfill.	Alternative 2 Separate debris into recyclable metal and "other" material; "other" material to TSCA-permitted commercial chemical waste landfill; decon recyclable metal debris to $\leq$100 ug/100 cm^2 and dispose in industrial landfill; properly dispose of residuals from cleaning.	Alternative 3 Separate debris into recyclable metal and "other" material; "other" material to TSCA-permitted commercial chemical waste landfill; decon recyclable metal to $\leq$100 ug/100 cm^2 and sell to scrap dealer for subsequent meltdown; proper disposal of residuals from cleaning.	Alternative 4 Separate debris into recyclable metal and "other" material; "other" material to TSCA-permitted commercial chemical waste landfill; decon recyclable metal to $\leq$100 ug/100 cm^2 and sell directly to a smelter for meltdown; properly dispose of residuals from cleaning.	Alternative 5 Separate debris into recyclable metal and "other" material; "other" material to TSCA-permitted commercial chemical waste landfill; decon recyclable metal to $\leq$10 ug/100 cm^2 and store on-site; properly dispose of residuals from cleaning.	Alternative 6 Separate debris into recyclable metal and "other" material; "other" material to TSCA-permitted commercial chemical waste landfill; decon recyclable metal to $\leq$10 ug/100 cm^2 and sell for direct reuse; properly dispose of residuals from cleaning.
OVERALL PROTECTION OF HUMAN HEALTH AND THE ENVIRONMENT						
Protection of Human Health	Fencing will continue to minimize the potential for ingestion of or contact with contaminated material. On-site, real-time air quality monitoring and/or the use of dust suppression techniques may be required during remedial construction, both for the protection of on-site workers and the general public. The use of appropriate protective equipment during remediation will minimize potential threat to workers. Transporting contaminated material to a TSCA-permitted commercial chemical landfill will minimize direct human contact with PCBs. Potential hazards to humans due to transportation of PCB contaminated material.	Fencing will continue to minimize access to the site and disturbance of contaminated material. On-site, real-time air quality monitoring and/or the use of dust suppression techniques may be required during remedial construction, both for the protection of on-site workers and the general public. The use of appropriate protective equipment during remedial activities will minimize potential threat to remedial workers. Transporting non-metals to a TSCA-permitted commercial chemical landfill and decon of metal will minimize direct human contact with PCBs. Potential hazards to humans due to transportation of PCB contaminated debris and residuals.	Fencing will continue to minimize access to the site and disturbance of contaminated material. On-site, real-time air quality monitoring and/or the use of dust suppression techniques may be required during remedial construction, both for the protection of on-site workers and the general public. The use of appropriate protective equipment during remedial activities will minimize potential threat to remedial workers. Transporting non-metal to a TSCA-permitted commercial chemical landfill and decon of metal will minimize direct human contact with PCBs. Potential hazards to humans due to transportation of PCB contaminated material and residuals.	Fencing will continue to minimize access to the site and disturbance of contaminated material. On-site, real-time air quality monitoring and/or the use of dust suppression techniques may be required during remedial construction, both for the protection of on-site workers and the general public. The use of appropriate protective equipment during remedial activities will minimize potential threat to remedial workers. Transporting non-metal to a TSCA-permitted commercial chemical landfill and decon of metal will minimize direct human contact with PCBs. Potential hazards to humans due to transportation of PCB contaminated material and residuals.	Fencing will continue to minimize access to the site and disturbance of contaminated material. On-site, real-time air quality monitoring and/or the use of dust suppression techniques may be required during remedial construction, both for the protection of on-site workers and the general public. The use of appropriate protective equipment during remedial activities will minimize potential threat to remedial workers. Transporting non-metal to a TSCA-permitted commercial chemical landfill and decon of metal will minimize direct human contact with PCBs. Potential hazards to humans due to transportation of PCB contaminated material and residuals.	Fencing will continue to minimize access to the site and disturbance of contaminated material. On-site, real-time air quality monitoring and/or the use of dust suppression techniques may be required during remedial construction, both for the protection of on-site workers and the general public. The use of appropriate protective equipment during remedial activities will minimize potential threat to remedial workers. Transporting non-metal to a TSCA-permitted commercial chemical landfill and decon of metal will minimize direct human contact with PCBs. Potential hazards to humans due to transportation of PCB contaminated material and residuals.
Protection of Environment	Landfilling of material will minimize contact with PCBs by ecological receptors. Potential for hazards to the environment due to transportation of contaminated material.	Landfilling of debris and proper disposal of residuals will minimize contact with PCBs by ecological receptors. Potential for hazards to the environment due to transportation of PCB contaminated debris and residuals.	Landfilling of debris, decon of metal and proper disposal of residuals will minimize contact with PCBs by ecological receptors. Potential for hazards to the environment due to transportation of contaminated material and residuals.	Landfilling of debris, decon of metal and proper disposal of residuals will minimize contact with PCBs by ecological receptors. Potential for hazards to the environment due to transportation of contaminated material and residuals.	Landfilling of debris, decon of metal and proper disposal of residuals will minimize contact with PCBs by ecological receptors. Potential for hazards to the environment due to transportation of contaminated material and residuals.	Landfilling of debris, decon of metal and proper disposal of residuals will minimize contact with PCBs by ecological receptors. Potential for hazards to the environment due to transportation of contaminated material and residuals.

Table 8
Detailed Analysis of Remedial Alternatives
PCB Contaminated Debris
Phase I
Bossert Site, Utica NY

	Alternative 1 Do not separate debris; send all debris to TSCA-permitted commercial chemical waste landfill.	**Alternative 2** Separate debris into recyclable metal and "other" material; "other" material to TSCA-permitted commercial chemical waste landfill; decon recyclable metal debris to ≤100 ug/100 cm^2 and dispose in industrial landfill; properly dispose of residuals from cleaning.	**Alternative 3** Separate debris into recyclable metal and "other" material; "other" material to TSCA-permitted commercial chemical waste landfill; decon recyclable metal to ≤100 ug/100 cm^2 and sell to scrap dealer for subsequent meltdown; proper disposal of residuals from cleaning.	**Alternative 4** Separate debris into recyclable metal and "other" material; "other" material to TSCA-permitted commercial chemical waste landfill; decon recyclable metal to ≤100 ug/100 cm^2 and sell directly to a smelter for meltdown; properly dispose of residuals from cleaning.	**Alternative 5** Separate debris into recyclable metal and "other" material; "other" material to TSCA-permitted commercial chemical waste landfill; decon recyclable metal to ≤10 ug/100 cm^2 and store on-site; properly dispose of residuals from cleaning.	**Alternative 6** Separate debris into recyclable metal and "other" material; "other" material to TSCA-permitted commercial chemical waste landfill; decon recyclable metal to ≤10 ug/100 cm^2 and sell for direct reuse; properly dispose of residuals from cleaning.
COMPLIANCE WITH SCGs						
Chemical-Specific SCGs	Since separation of debris pieces with PCB concentrations >50 mg/Kg is not considered feasible, all of the debris is assumed to be contaminated. The only materials contained in the debris piles that are considered suitable to undergo a decontamination process are the metals. Therefore, to be consistent with Part 371, all "other" debris must be disposed of as PCB contaminated waste.	Since separation of debris pieces with PCB concentrations >50 mg/Kg is not considered feasible, all of the debris is assumed to be contaminated. The only materials contained in the debris piles that are considered suitable to undergo a decontamination process are the metals. Therefore, to be consistent with Part 371, all "other" debris must be disposed of as PCB contaminated waste.	Since separation of debris pieces with PCB concentrations >50 mg/Kg is not considered feasible, all of the debris is assumed to be contaminated. The only materials contained in the debris piles that are considered suitable to undergo a decontamination process are the metals. Therefore, to be consistent with Part 371, all "other" debris must be disposed of as PCB contaminated waste. Recycling of the metal is consistent with the NYS SWMP goal to optimize recycling. It is also assumed that the decontamination criteria for the metal debris will be consistent with recent guidance from USEPA regarding decontamination of the machines. Although this guidance is not a regulatory requirement, the USEPA has recommended a decontamination goal of ≤100 ug/100 cm^2 for surface contamination levels on the machines (and therefore on the metal debris) prior to meltdown. If this level cannot be obtained, then the sample results for that load will be listed on its shipping manifest.	Since separation of debris pieces with PCB concentrations >50 mg/Kg is not considered feasible, all of the debris is assumed to be contaminated. The only materials contained in the debris piles that are considered suitable to undergo a decontamination process are the metals. Therefore, to be consistent with Part 371, all "other" debris must be disposed of as PCB contaminated waste. Recycling of the metal is consistent with the NYS SWMP goal to optimize recycling. It is also assumed that the decontamination criteria for the metal debris will be consistent with recent guidance from USEPA regarding decontamination of the machines. Although this guidance is not a regulatory requirement, the USEPA has recommended a decontamination goal of ≤100 ug/100 cm^2 for surface contamination levels on the machines (and therefore on the metal debris) prior to meltdown. If this level cannot be obtained, then the sample results for that load will be listed on its shipping manifest.	Since separation of debris pieces with PCB concentrations >50 mg/Kg is not considered feasible, all of the debris is assumed to be contaminated. The only materials contained in the debris piles that are considered suitable to undergo a decontamination process are the metals. Therefore, to be consistent with Part 371, all "other" debris must be disposed of as PCB contaminated waste.	Since separation of debris pieces with PCB concentrations >50 mg/Kg is not considered feasible, all of the debris is assumed to be contaminated. The only materials contained in the debris piles that are considered suitable to undergo a decontamination process are the metals. Therefore, to be consistent with Part 371, all "other" debris must be disposed of as PCB contaminated waste. Recycling of the metal is consistent with the NYSDEC goal to optimize recycling.
Location-Specific SCGs	This alternative is consistent with Part 375, in that it mitigates significant threats to human health and the environment through the proper disposal of all debris in a TSCA-permitted landfill.	This alternative is consistent with Part 375, in that it mitigates significant threats to human health and the environment. Mitigation is achieved through the proper disposal of "other" debris in a TSCA-permitted landfill and the decontamination of all metal debris and its disposal in an industrial landfill.	This alternative is consistent with Part 375, in that it mitigates significant threats to human health and the environment. Mitigation is achieved through the proper disposal of all "other" debris in a TSCA-permitted landfill and the decontamination and subsequent metal down of all metal debris.	This alternative is consistent with Part 375, in that it mitigates significant threats to human health and the environment. Mitigation is achieved through the proper disposal of all "other" debris in a TSCA-permitted landfill and the decontamination and subsequent metal down of all metal debris.	This alternative is consistent with Part 375, in that it mitigates significant threats to human health and the environment. Mitigation is achieved through the proper disposal of all "other" debris in a TSCA-permitted landfill and the decontamination and subsequent on-site storage of all metal debris.	This alternative is consistent with Part 375, in that it mitigates significant threats to human health and the environment. Mitigation is achieved through the proper disposal of all "other" debris in a TSCA-permitted landfill and the decontamination and subsequent direct reuse of all metal debris.

Table 8
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PCB Contaminated Debris
Phase I
Bossert Site, Utica NY

	Alternative 1 Do not separate debris; send all debris to TSCA-permitted commercial chemical waste landfill.	**Alternative 2** Separate debris into recyclable metal and "other" material; "other" material to TSCA-permitted commercial chemical waste landfill; decon recyclable metal debris to $\leq$100 ug/100 cm^2 and dispose in industrial landfill; properly dispose of residuals from cleaning.	**Alternative 3** Separate debris into recyclable metal and "other" material; "other" material to TSCA-permitted commercial chemical waste landfill; decon recyclable metal to $\leq$100 ug/100 cm^2 and sell to scrap dealer for subsequent meltdown; proper disposal of residuals from cleaning.	**Alternative 4** Separate debris into recyclable metal and "other" material; "other" material to TSCA-permitted commercial chemical waste landfill; decon recyclable metal to $\leq$100 ug/100 cm^2 and sell directly to a smelter for meltdown; properly dispose of residuals from cleaning.	**Alternative 5** Separate debris into recyclable metal and "other" material; "other" material to TSCA-permitted commercial chemical waste landfill; decon recyclable metal to $\leq$10 ug/100 cm^2 and store on-site; properly dispose of residuals from cleaning.	**Alternative 6** Separate debris into recyclable metal and "other" material; "other" material to TSCA-permitted commercial chemical waste landfill; decon recyclable metal to $\leq$10 ug/100 cm^2 and sell for direct reuse; properly dispose of residuals from cleaning.
Action-Specific SCGs	Particulate air quality standards will be attained through real time, on-site air quality monitoring and the proper implementation of a dust suppression program. OSHA requirements will be met during remediation. Manifesting will meet the requirements of Part 372. Part 364 requirements will be attained during transportation. Disposal facilities will meet the requirements of Part 373. But, since the metal debris could be recycled, the landfilling of the metal is inconsistent with the NYS SWMP goal to optimize recycling.	Particulate air quality standards will be attained through real time, on-site air quality monitoring and the proper implementation of a dust suppression program. OSHA requirements will be met during remediation. Manifesting will meet the requirements of Part 372. Part 364 requirements will be attained during transportation. Disposal facilities will meet the requirements of Part 360 and Part 373. But, since the metal debris could be recycled, the landfilling of the metal is inconsistent with the NYS SWMP goal to optimize recycling.	Particulate air quality standards will be attained through real time, on-site air quality monitoring and the proper implementation of a dust suppression program. OSHA requirements will be met during remediation. Manifesting will meet the requirements of Part 372. Part 364 requirements will be attained during transportation. Disposal facilities will meet the requirements of Part 360 and Part 373.	Particulate air quality standards will be attained through real time, on-site air quality monitoring and the proper implementation of a dust suppression program. OSHA requirements will be met during remediation. Manifesting will meet the requirements of Part 372. Part 364 requirements will be attained during transportation. Disposal facilities will meet the requirements of Part 360 and Part 373.	Particulate air quality standards will be attained through real time, on-site air quality monitoring and the proper implementation of a dust suppression program. OSHA requirements will be met during remediation. Manifesting will meet the requirements of Part 372. Part 364 requirements would be attained during transportation. Disposal facilities will meet the requirements of Part 360 and Part 373. But, since the metal debris could be recycled, the landfilling of the metal is inconsistent with the NYS SWMP goal to optimize recycling.	Particulate air quality standards will be attained through real time, on-site air quality monitoring and the proper implementation of a dust suppression program. OSHA requirements will be met during remediation. Manifesting would meet the requirements of Part 372. Part 364 requirements will be attained during transportation. Disposal facilities will meet the requirements of Part 360 and Part 373.
LONG-TERM EFFECTIVENESS AND PERMANENCE						
Magnitude of Residual Risk	Maintenance of the existing fences, locks and signs will continue to minimize contact with contaminated material during remediation. For materials subject to final land disposal, some low level residual risk will remain at the final land disposal location. However, for a permitted and properly operated TSCA, RCRA or Part 360 disposal facility, this low level residual risk is minimized and is considered acceptable. Also, the removal of the PCB contaminated debris is necessary for the continued remediation of the building structure.	Maintenance of the existing fences, locks and signs will continue to minimize contact with contaminated material during remediation. For materials subject to final land disposal, some low level residual risk will remain at the final land disposal location. However, for a permitted and properly operated TSCA, RCRA or Part 360 disposal facility, this low level residual risk is minimized and is considered acceptable. Proper disposal is expected to mitigate risks from residuals generated during decontamination. Also, the removal of the PCB contaminated debris is necessary for the continued remediation of the building structure.	Maintenance of the existing fences, locks and signs will continue to minimize contact with contaminated material during remediation. For materials subject to final land disposal, some low level residual risk will remain at the final land disposal location. However, for a permitted and properly operated TSCA, RCRA or Part 360 disposal facility, this low level residual risk is minimized and is considered acceptable. Proper disposal is expected to mitigate risk from residuals generated during decontamination. Meltdown of the metal debris should eliminate any remaining residuals. Also, the removal of the PCB contaminated debris is necessary for the continued remediation of the building structure.	Maintenance of the existing fences, locks and signs will continue to minimize contact with contaminated material during remediation. For materials subject to final land disposal, some low level residual risk will remain at the final land disposal location. However, for a permitted and properly operated TSCA, RCRA or Part 360 disposal facility, this low level residual risk is minimized and is considered acceptable. Proper disposal is expected to mitigate risk from residuals generated during decontamination. Meltdown of the metal debris should eliminate any remaining residuals. Also, the removal of the PCB contaminated debris is necessary for the continued remediation of the building structure.	Maintenance of the existing fences, locks and signs will continue to minimize contact with contaminated material during remediation. For materials subject to final land disposal, some low level residual risk will remain at the final land disposal location. However, for a permitted and properly operated TSCA, RCRA or Part 360 disposal facility, this low level residual risk is minimized and is considered acceptable. Proper disposal is expected to mitigate risk from residuals generated during decontamination. Meltdown of the metal debris should eliminate any remaining residuals. Also, the removal of the PCB contaminated debris is necessary for the continued remediation of the building structure.	Maintenance of the existing fences, locks and signs will continue to minimize contact with contaminated material during remediation. For materials subject to final land disposal, some low level residual risk will remain at the final land disposal location. However, for a permitted and properly operated TSCA, RCRA or Part 360 disposal facility, this low level residual risk is minimized and is considered acceptable. Proper disposal is expected to mitigate risk from residuals generated during decontamination. Meltdown of the metal debris should eliminate any remaining residuals. Also, the removal of the PCB contaminated debris is necessary for the continued remediation of the building structure.

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PCB Contaminated Debris
Phase I
Bossert Site, Utica NY

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Adequacy and Reliability of Controls	Fencing is considered adequate and reliable in restricting activities resulting in potential ingestion of or contact with contaminated material. Land disposal, when properly implemented, is considered a reliable remedial measure.	Fencing is considered adequate and reliable in restricting activities resulting in potential ingestion of or contact with contaminated material. Land disposal, when properly implemented, is considered a reliable remedial measure. Several methods of decon are reliable in separation of contaminants from metal surfaces. Several methods for the treatment and disposal of residuals are considered to be effective and reliable.	Fencing is considered adequate and reliable in restricting activities resulting in potential ingestion of or contact with contaminated material. Land disposal, when properly implemented, is considered a reliable remedial measure. Meltdown of metals is also considered a reliable and effective remedial measure. Several methods of decon are reliable 870Xseparationof contaminants from metal surfaces. Several methods for the treatment and disposal of residuals are considered to be effective and reliable.	Fencing is considered adequate and reliable in restricting activities resulting in potential ingestion of or contact with contaminated material. Land disposal, when properly implemented, is considered a reliable remedial measure. Meltdown of metals is also considered a reliable and effective remedial measure. Several methods of decon are reliable in separation of contaminants from metal surfaces. Several methods for the treatment and disposal of residuals are considered to be effective and reliable.	Fencing is considered adequate and reliable in restricting activities resulting in potential ingestion of or contact with contaminated material. Land disposal, when properly implemented, is considered a reliable remedial measure. Several methods of decon are reliable in separation of contaminants from metal surfaces. Several methods for the treatment and disposal of residuals are considered to be effective and reliable.	Fencing is considered adequate and reliable in restricting activities resulting in potential ingestion of or contact with contaminated material. Land disposal, when properly implemented, is considered a reliable remedial measure. Several methods of decon are reliable in separation of contaminants from metal surfaces. Several methods for the treatment and disposal of residuals are considered to be effective and reliable.
REDUCTION OF TOXICITY, MOBILITY OR VOLUME THROUGH TREATMENT						
Treatment Process Used and Materials Treated	No treatment.	Gross decon of metals and proper disposal of residuals.	Gross decon and meltdown of metals. Proper disposal of residuals.	Gross decon and meltdown of metals. Proper disposal of residuals.	Major decon of metals and proper disposal of residuals.	Major decon of metals and proper disposal of residuals.
Amount of Hazardous Material Destroyed or Treated	No treatment.	Gross decon will reduce contamination on metal to ≤100 ug/100 cm^2.	Meltdown is considered 99.999% effective for the material recycled. Volume and toxicity of PCB contaminated residuals will be reduced through proper treatment.	Meltdown is considered 99.999% effective for the material recycled. Volume and toxicity of PCB contaminated residuals will be reduced through proper treatment.	Volume and toxicity of PCB contaminated residuals will be reduced through proper treatment.	Incineration is considered 99.999% effective in destroying PCBs in residuals.
Degree of Expected Reduction of Toxicity, Mobility or Volume	No reduction in toxicity or volume of contamination. Mobility of contamination will be reduced with proper disposal in a landfill.	Volume of contamination on the metal debris will be reduced to ≤100ug/100 cm^2. Volume and toxicity of PCB contaminated residuals will be reduced through proper treatment. Mobility of contamination will be reduced with proper disposal in a landfill.	Volume of contamination on the metal debris will be reduced to ≤100ug/100 cm^2. Volume and toxicity of PCB contaminated residuals will be reduced through proper treatment. Remelting of recyclable metals will reduce the volume of material which ultimately requires land disposal.	Volume of contamination on the metal debris will be reduced to ≤100ug/100 cm^2. Volume and toxicity of PCB contaminated residuals will be reduced through proper treatment. Remelting of recyclable metals will reduce the volume of material which ultimately requires land disposal.	Volume of contamination on the metal debris will be reduced to ≤10 ug/100 cm^2. Volume and toxicity of PCB contaminated residuals will be reduced through proper treatment. On-site storage of recyclable metals will reduce the volume of material which ultimately requires land disposal.	Volume of contamination on the metal debris will be reduced to ≤10 ug/100 cm^2. Volume and toxicity of PCB contaminated residuals will be reduced through proper treatment. Sale of recyclable metals will reduce the volume of material which ultimately requires land disposal.
Degree to Which Treatment is Irreversible	Landfilling is expected to be a somewhat reversible process, since theoretically, the debris could be recovered from the landfill.	Landfilling is expected to be a somewhat reversible process, since theoretically, the debris could be recovered from the landfill. Treatment of residuals is expected to be irreversible.	Remelting of recyclable metals is considered to be irreversible. Landfilling is expected to be a somewhat reversible process, since theoretically, the debris could be recovered from the landfill. Treatment of residuals is expected to be irreversible.	Remelting of recyclable metals is considered to be irreversible. Landfilling is expected to be a somewhat reversible process, since theoretically, the debris could be recovered from the landfill. Treatment of residuals is expected to be irreversible.	On-site storage of the metal debris is considered to be the most easily reversible alternative. Landfilling is expected to be a somewhat reversible process, since theoretically, the debris could be recovered from the landfill. Treatment of residuals is expected to be irreversible.	Sale of the metal debris is considered to be the somewhat reversible, if the final location of the metal is kept on file. Landfilling is expected to be a somewhat reversible process, since theoretically, the debris could be recovered from the landfill. Treatment of residuals is expected to be irreversible.

Table 8
Detailed Analysis of Remedial Alternatives
PCB Contaminated Debris
Phase I
Bossert Site, Utica NY

	Alternative 1 Do not separate debris; send all debris to TSCA-permitted commercial chemical waste landfill.	Alternative 2 Separate debris into recyclable metal and "other" material; "other" material to TSCA-permitted commercial chemical waste landfill; decon recyclable metal debris to ≤100 ug/100 cm² and dispose in industrial landfill; properly dispose of residuals from cleaning.	Alternative 3 Separate debris into recyclable metal and "other" material; "other" material to TSCA-permitted commercial chemical waste landfill; decon recyclable metal to ≤100 ug/100 cm² and sell to scrap dealer for subsequent meltdown; proper disposal of residuals from cleaning.	Alternative 4 Separate debris into recyclable metal and "other" material; "other" material to TSCA-permitted commercial chemical waste landfill; decon recyclable metal to ≤100 ug/100 cm² and sell directly to a smelter for meltdown; properly dispose of residuals from cleaning.	Alternative 5 Separate debris into recyclable metal and "other" material; "other" material to TSCA-permitted commercial chemical waste landfill; decon recyclable metal to ≤10 ug/100 cm² and store on-site; properly dispose of residuals from cleaning.	Alternative 6 Separate debris into recyclable metal and "other" material; "other" material to TSCA-permitted commercial chemical waste landfill; decon recyclable metal to ≤10 ug/100 cm² and sell for direct reuse; properly dispose of residuals from cleaning.
Type and Quantity of Residuals Remaining After Treatment	Contamination will remain on debris at existing levels.	PCB contamination of interior and hidden surfaces.	PCB contamination of interior and hidden surfaces may persist until meltdown, but is unlikely to remain after meltdown.	PCB contamination of interior and hidden surfaces may persist until meltdown, but is unlikely to remain after meltdown.	PCB contamination of interior or hidden surfaces may or may not persist even following a very through decontamination. Ash is expected to be a residual from the incineration of decon residuals.	PCB contamination of interior or hidden surfaces may or may not persist even following a very through decontamination. Ash is expected to be a residual from the incineration of decon residuals.
SHORT-TERM EFFECTIVENESS						
Protection of Community During Remedial Actions	Dust control and monitoring will minimize PCB air migration during remediation and transport. Community will be restricted from access to study area. Monitoring, conformance with regulatory requirements, and public outreach will help protect the community from being adversely effected by the site Phase I remediation process.	Dust control and monitoring will minimize PCB air migration during remediation and transport. Community will be restricted from access to study area. Monitoring, conformance with regulatory requirements, and public outreach will help protect the community from being adversely effected by the site Phase I remediation process.	Dust control and monitoring will minimize PCB air migration during remediation and transport. Community will be restricted from access to study area. Monitoring, conformance with regulatory requirements, and public outreach will help protect the community from being adversely effected by the site Phase I remediation process.	Dust control and monitoring will minimize PCB air migration during remediation and transport. Community will be restricted from access to study area. Monitoring, conformance with regulatory requirements, and public outreach will help protect the community from being adversely effected by the site Phase I remediation process.	Dust control and monitoring will minimize PCB air migration during remediation and transport. Community will be restricted from access to study area. Monitoring, conformance with regulatory requirements, and public outreach will help protect the community from being adversely effected by the site Phase I remediation process.	Dust control and monitoring will minimize PCB air migration during remediation and transport. Community will be restricted from access to study area. Monitoring, conformance with regulatory requirements, and public outreach will help protect the community from being adversely effected by the site Phase I remediation process.
Protection of Workers During Remedial Actions	Appropriate protective equipment will be utilized during remediation and transport.	Appropriate protective equipment will be used during remediation and transport.	Appropriate protective equipment will be utilized during remediation and transport.	Appropriate protective equipment will be utilized during remediation and transport.	Appropriate protective equipment will be utilized during remediation and transport.	Appropriate protective equipment will be utilized during remediation and transport.
Environmental Impacts	Contaminant transport during remediation will be minimized through appropriate methods such as: common on-site routes for movement of contaminated materials; vehicle washing before leaving the site; and dust control. Long term environmental impacts will be minimized by conformance with applicable regulatory requirements and by implementation of recycling where feasible and practical.	Contaminant transport during remediation will be minimized through appropriate methods such as: common on-site routes for movement of contaminated materials; vehicle washing before leaving the site; and dust control. Long term environmental impacts will be minimized by conformance with applicable regulatory requirements and by implementation of recycling where feasible and practical.	Contaminant transport during remediation will be minimized through appropriate methods such as: common on-site routes for movement of contaminated materials; vehicle washing before leaving the site; and dust control. Long term environmental impacts will be minimized by conformance with applicable regulatory requirements and by implementation of recycling where feasible and practical.	Contaminant transport during remediation will be minimized through appropriate methods such as: common on-site routes for movement of contaminated materials; vehicle washing before leaving the site; and dust control. Long term environmental impacts will be minimized by conformance with applicable regulatory requirements and by implementation of recycling where feasible and practical.	Contaminant transport during remediation will be minimized through appropriate methods such as: common on-site routes for movement of contaminated materials; vehicle washing before leaving the site; and dust control. Long term environmental impacts will be minimized by conformance with applicable regulatory requirements and by implementation of recycling where feasible and practical.	Contaminant transport during remediation will be minimized through appropriate methods such as: common on-site routes for movement of contaminated materials; vehicle washing before leaving the site; and dust control. Long term environmental impacts will be minimized by conformance with applicable regulatory requirements and by implementation of recycling where feasible and practical.
Time Until Remedial Action Objectives Are Achieved	Immediately following implementation (1 construction season).	Immediately following implementation. (1 construction season).	Immediately following implementation (1 construction season).	Immediately following implementation (1 construction season).	Immediately following implementation (1 construction season).	Immediately following implementation (1 construction season).
IMPLEMENTABILITY						
Ability to Construct and Operate the Technology	Transport and landfilling are implementable. Fence locks, warning signs and maintenance already implemented.	Separation of large metal and non-metal debris, transport, landfilling and residual incineration are implementable. Fence locks, warning signs and maintenance already implemented.	Separation of large metal and non-metal debris, metal meltdown, transport, landfilling and residual disposal are implementable. Fence locks, warning signs and maintenance already implemented.	Separation of large metal and non-metal debris, metal meltdown, transport, landfilling and residual disposal are implementable. Fence locks and maintenance already implemented.	Separation of large metal and non-metal debris, transport, landfilling and residual disposal are implementable. Fence locks, warning signs and maintenance already implemented.	Separation of large metal and non-metal debris, transport, landfilling and residual disposal are implementable. Fence locks, warning signs and maintenance already implemented.

Table 8
Detailed Analysis of Remedial Alternatives
PCB Contaminated Debris
Phase I
Bossert Site, Utica NY

	Alternative 1 Do not separate debris; send all debris to TSCA-permitted commercial chemical waste landfill.	Alternative 2 Separate debris into recyclable metal and "other" material; "other" material to TSCA-permitted commercial chemical waste landfill; decon recyclable metal debris to ≤100 ug/100 cm^2 and dispose in industrial landfill; properly dispose of residuals from cleaning.	Alternative 3 Separate debris into recyclable metal and "other" material; "other" material to TSCA-permitted commercial chemical waste landfill; decon recyclable metal to ≤100 ug/100 cm^2 and sell to scrap dealer for subsequent meltdown; proper disposal of residuals from cleaning.	Alternative 4 Separate debris into recyclable metal and "other" material; "other" material to TSCA-permitted commercial chemical waste landfill; decon recyclable metal to ≤100 ug/100 cm^2 and sell directly to a smelter for meltdown; properly dispose of residuals from cleaning.	Alternative 5 Separate debris into recyclable metal and "other" material; "other" material to TSCA-permitted commercial chemical waste landfill; decon recyclable metal to ≤10 ug/100 cm^2 and store on-site; properly dispose of residuals from cleaning.	Alternative 6 Separate debris into recyclable metal and "other" material; "other" material to TSCA-permitted commercial chemical waste landfill; decon recyclable metal to ≤10 ug/100 cm^2 and sell for direct reuse; properly dispose of residuals from cleaning.
Reliability of Technology	Transport, landfilling and fencing are reliable.	Separation, transport, landfilling and fencing are reliable.	Separation, meltdown, landfilling, transport, treatment of residuals and fencing are reliable.	Separation, meltdown, landfilling, transport, treatment of residuals and fencing are reliable.	Separation, transport, landfilling, treatment of residuals and fencing are reliable. Decon to ≤10 ug/100 cm^2 may or may not be achieveable.	Separation, transport, landfilling, treatment of residuals and fencing are reliable. Decon to ≤10 ug/100 cm^2 may or may not be achieveable.
Ease of Undertaking Additional Remedial Actions, If Necessary	Additional remedial actions readily implemented.	Additional remedial actions readily implemented.	Additional remedial actions readily implemented.	Additional remedial actions readily implemented.	Implementation of additional remedial actions may or may not be hampered by storage of the material on-site.	Additional remedial actions readily implemented.
Ability to Monitor Effectiveness of Remedy	Resampling will indicate remaining levels of contamination.	Resampling will indicate remaining levels of contamination.	Resampling will indicate remaining levels of contamination.	Resampling will indicate remaining levels of contamination.	Resampling will indicate remaining levels of contamination.	Resampling will indicate remaining levels of contamination.
Coordination With Other Agencies	Coordination between City of Utica, NYSDOH, NYSDEC, NYSDOT and USEPA necessary to implement disposal.	Coordination between City of Utica, NYSDOH, NYSDEC, NYSDOT and USEPA necessary to implement remediation and disposal.	Coordination between City of Utica, NYSDOH, NYSDEC, NYSDOT and USEPA necessary to implement remediation, recycling and disposal.	Coordination between City of Utica, NYSDOH, NYSDEC, NYSDOT and USEPA necessary to implement remediation, recycling and disposal.	Coordination between City of Utica, NYSDOH, NYSDEC, NYSDOT and USEPA necessary to implement remediation, recycling and disposal.	Coordination between City of Utica, NYSDOH, NYSDEC, NYSDOT and USEPA necessary to implement remediation, recycling and disposal.
Availability of Offsite Treatment, Storage and Disposal Services and Capacities	Landfill facilities and capacity expected to be readily available.	Landfill and treatment facilities and capacity expected to be readily available.	Landfill, meltdown and treatment facilities and capacity expected to be readily available.	Landfill, meltdown and treatment facilities and capacity expected to be readily available.	Landfill and treatment facilities and capacity expected to be readily available.	Landfill and treatment facilities and capacity expected to be readily available.
Availability of Necessary Equipment, Specialists and Materials	Equipment, material and personnel for transportation and disposal expected to be readily available.	Equipment, material and personnel for separation, decon, transportation and disposal expected to be readily available	Equipment, material and personnel for separation, decon, transportation, meltdown and disposal expected to be readily available	Equipment, material and personnel for separation, decon, transportation, meltdown and disposal expected to be readily available	Equipment, material and personnel for separation, decon, transportation, and disposal expected to be readily available	Equipment, material and personnel for separation, decon, transportation, and disposal expected to be readily available. Market for resale of metals may or may not exist.
Availability of Prospective Technologies	Readily available.	Readily available.	Readily available.	Readily available.	Readily available.	Readily available.
COST						
Capital Costs	$1,986,722	$1,858,630	$1,600,510	$1,600,510	$1,665,742	$1,671,142
STATE ACCEPTANCE						
To be documented in the Proposed Remedial Action Plan (PRAP) and in the Record of Decision (ROD).						
COMMUNITY ACCEPTANCE						
To be assessed following the Public Meeting and the public comment period; and documented in the responsiveness summary and in the ROD.						

TABLE 9 - PCB CONTAMINATED DEBRIS
BOSSERT SITE, UTICA NY
SUMMARY OF ESTIMATED COSTS

Note: ($) represents credit to Owner

	Alternative 1 All to TSCA landfill	Alternative 2 "Other" to TSCA landfill Metal to sanitary landfill	Alternative 3 "Other" to TSCA landfill Metal to scrap dealer	Alternative 4 "Other" to TSCA landfill Metal to smelter	Alternative 5 "Other" to TSCA landfill Metal store on-site	Alternative 6 "Other" to TSCA landfill Metal reused
Removal	$110,450	$110,450	$110,450	$110,450	$110,450	$110,450
Separate	----	$12,956	$12,956	$12,956	$12,956	$12,956
Major Decon (<10 ug/100 sq cm)	----	----	----	----	$141,264	$141,264
Gross Decon (<100 ug/100 sq cm)	----	$70,632	$70,632	$70,632	----	----
Load	$42,792	$42,792	$42,792	$42,792	$42,792	$42,792
Transportation	$791,730	$802,530	$629,730	$629,730	$586,530	$629,730
Truck to TSCA landfill	$791,730	$586,530	$586,530	$586,530	$586,530	$586,530
Truck to sanitary landfill	----	$216,000	----	----	----	----
Truck to scrapyard	----	----	$43,200	$43,200	----	$43,200
Disposal	$1,041,750	$819,270	$733,950	$733,950	$771,750	$733,950
TSCA landfill	$1,041,750	$771,750	$771,750	$771,750	$771,750	$771,750
Sanitary landfill	----	$47,520	----	----	----	----
Recycle	----	----	($37,800)	($37,800)	----	($37,800)
Subtotal - Direct Capital Costs	$1,986,722	$1,858,630	$1,600,510	$1,600,510	$1,665,742	$1,671,142

BOS - 1.4206

TABLE 10 - PCB CONTAMINATED DEBRIS
BOSSERT SITE, UTICA NY
ESTIMATED COST BREAKDOWN
Note: ($) represents credit to Owner

Description	Quantity	Units	Unit Cost	Cost
Removal from building				
Loader	5000	cy	$1.84	$9,200
Labor	125	crew day	$750	$93,750
PPE	125	crew day	$60	$7,500
Subtotal				$110,450
Separate recyclable metal				
Loader	163	cy	$1.84	$300
Labor w/ PPE	125	hr	$101.25	$12,656
Subtotal				$12,956
Major decon recyclable metal (<10 ug/100 sq cm)				
Labor w/ PPE	86.4	crew day	$810	$69,984
Sampling	2160	ton	$33	$71,280
Subtotal				$141,264
Gross decon recyclable metal (<100 ug/100 sq cm)				
Labor w/ PPE	43.2	crew day	$810	$34,992
Sampling	1080	ton	$33	$35,640
Subtotal				$70,632
Load material into container				
Crane	4	month	$3,600	$14,400
Operator	672	hr	$20.75	$13,944
Rigger w/ PPE	672	hr	$21.50	$14,448
Subtotal				$42,792
Truck to Scrap Yard w/o liner				
100 mile round trip	1080	ton	$40	$43,200
Truck to TSCA Landfill w/ liner				
400 mile round trip	4167	ton	$190	$791,730
400 mile round trip	3087	ton	$190	$586,530
Truck to Sanitary Landfill w/o liner				
500 mile round trip	1080	ton	$200	$216,000
Disposal				
TSCA landfill	3087	ton	$250	$771,750
TSCA landfill	4167	ton	$250	$1,041,750
Sanitary landfill	1080	ton	$44	$47,520
Recycle	1080	ton	($35)	($37,800)

Table 11
Detailed Analysis of Remedial Alternatives
Asbestos Containing Material (ACM)
Phase I
Bossert Site, Utica NY

	Alternative 1 Implementation of an asbestos operations and maintenance program	Alternative 2 Repair	Alternative 3 Encapsulation	Alternative 4 Enclosure	Alternative 5 Removal
OVERALL PROTECTION OF HUMAN HEALTH AND THE ENVIRONMENT					
Protection of Human Health	Fencing will continue to inhibit access to the study area and exposure to ACM. ACM at the Site is currently damaged; future weathering and structural deterioration is likely to further compromise ACM integrity, thus an O&M program would not adequately protect human health of future on-site workers.	Fencing will continue to inhibit access to the study area and exposure to ACM. The use of appropriate protective equipment during remedial activities will minimize potential threat to remedial workers. Initial repair would minimize exposure of humans to ACM.	Fencing will continue to inhibit access to the study area and exposure to ACM. The use of appropriate protective equipment during remediation will minimize potential threat to workers. Encapsulation of damaged ACM is a recognized method of protecting human health from asbestos fibers.	Fencing will continue to inhibit access to the study area and exposure to ACM. The use of appropriate protective equipment during remediation will minimize potential threat to workers. Enclosure would effectively prevent human exposure to ACM.	Fencing will continue to inhibit access to the study area and exposure to ACM. The use of appropriate protective equipment during remediation will minimize potential threat to workers. Removal will minimize the potential for future human exposure to ACM at the Site.
Protection of Environment	Human health issues drive asbestos remediation, therefore environmental impacts are not addressed.	Human health issues drive asbestos remediation, therefore environmental impacts are not addressed.	Human health issues drive asbestos remediation, therefore environmental impacts are not addressed.	Human health issues drive asbestos remediation, therefore environmental impacts are not addressed.	Human health issues drive asbestos remediation, therefore environmental impacts are not addressed.
COMPLIANCE WITH SCGs					
Chemical-Specific SCGs	OSHA requirements addressed in 29 CFR 1910 and 20 CFR 1926.58.	OSHA requirements addressed in 29 CFR 1910 and 20 CFR 1926.58.	OSHA requirements addressed in 29 CFR 1910 and 20 CFR 1926.58.	OSHA requirements addressed in 29 CFR 1910 and 20 CFR 1926.58.	OSHA requirements addressed in 29 CFR 1910 and 20 CFR 1926.58.
Chemical-Specific TBCs	None.	None.	None.	None.	None.
Location-Specific SCGs	None.	None.	None.	None.	None.
Action-Specific SCGs	None.	Consistent with the requirements of Industrial Code Rule 56 (12 NYCRR 56).	Consistent with the requirements of Industrial Code Rule 56 (12 NYCRR 56).	Consistent with the requirements of Industrial Code Rule 56 (12 NYCRR 56).	Consistent with the requirements of Industrial Code Rule 56 (12 NYCRR 56). Transporters subject to requirements of 6 NYCRR Part 364. Disposal facilities subject to 6 NYCRR Part 360. 40 CFR 61 Subparts A and M govern the notification, removal and disposal provisions of the National Emission Standards for Hazardous Air Pollutants.
Action-Specific TBCs	None.	None.	None.	None.	None.
LONG-TERM EFFECTIVENESS AND PERMANENCE					
Magnitude of Residual Risk	Fence locks and maintenance will continue to inhibit outside contact with ACM. Residual risk from currently damaged ACM remains high.	Fence locks and maintenance will continue to inhibit outside contact with ACM. ACM remaining in place subject to additional deterioration represents a significant residual exposure risk.	Fence locks and maintenance will continue to inhibit outside access to ACM. ACM remaining on the Site represents a significant residual liability associated with potential human exposure to fibers resulting from additional damage or deterioration.	Fence locks and maintenance will continue to minimize contact with ACM during remediation. ACM remaining in place represents a significant residual liability especially if enclosure integrity is compromised.	Effective ACM removal will result in minimized residual risk associated with ACM.

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Table 11
Detailed Analysis of Remedial Alternatives
Asbestos Containing Material (ACM)
Phase I
Bossert Site, Utica NY

	Alternative 1 Implementation of an asbestos operations and maintenance program	Alternative 2 Repair	Alternative 3 Encapsulation	Alternative 4 Enclosure	Alternative 5 Removal
Adequacy and Reliability of Controls	Fencing is adequate and reliable in restricting activities resulting in outside contact with ACM. O&M is adequate for undamaged ACM. Because ACM is extensively damaged at the Site, O&M represents an inadequate remedial option at the Site.	Fencing is adequate and reliable in restricting activities resulting in potential contact with ACM. Subsequent O&M would be required at the Site to prevent further damage. An O&M program would be ineffective in preventing further damage to asbestos resulting from leaking water, roof collapse or accidental damage resulting from other remedial activities.	Fencing is adequate and reliable in restricting activities resulting in potential contact with ACM. Encapsulation is generally ineffective against damage due to physical contact or deterioration from water. Because water damage and physical contact are the two most likely causes of fiber release at the Site, this method does not represent a reliable method of control of fibers over the long term. Subsequent O&M would be impractical.	Fencing is adequate and reliable in restricting activities resulting in potential contact with ACM. Enclosure would likely be unreliable at the Site due to the high potential for deterioration of the enclosures. Enclosure would be inadequate in areas where other remedial efforts at the Site are required. Enclosures would be likely to interfere with many of these remedial activities. Subsequent O&M would be impractical.	Removal is an adequate and reliable method of performing ACM remediation. Removal is most compatible with other remedial efforts to be performed at the Site.
REDUCTION OF TOXICITY, MOBILITY OR VOLUME THROUGH TREATMENT					
Treatment Process Used and Materials Treated	N/A	N/A	N/A	N/A	N/A
Amount of Hazardous Material Destroyed or Treated	0	0	0	0	0
Degree of Expected Reduction of Toxicity, Mobility or Volume	None.	Mobility of ACM fibers reduced in repaired areas.	Reduction in the mobility of asbestos fibers.	Reduction in the mobility of asbestos fibers.	Near total elimination of airborne transmission of asbestos fibers.
Degree to Which Treatment is Irreversible	Fully reversible.	Repair of damaged ACM is reversible.	Irreversible	Enclosure is reversible.	Treatment is practically irreversible.
Type and Quantity of Residuals Remaining After Treatment	ACM would remain in place in original quantity.	ACM would remain in place in original quantity.	ACM would remain in place in original quantity.	ACM would remain in place in original quantity.	None
SHORT-TERM EFFECTIVENESS					
Protection of Community During Remedial Actions	Fencing will continue to restrict outside exposure to ACM.	Fencing will continue to restrict outside exposure to ACM.	Fencing restricts access to study area and contact with ACM.	Fencing restricts access to study area and contact with ACM.	Community will be restricted from access to study area. Air monitoring will be used to assess airborne migration of fibers during removal. Monitoring will not affect the community.
Protection of Workers During Remedial Actions	Appropriate protective equipment would be used during O&M.	Appropriate protective equipment would be utilized during remediation.	Appropriate protective equipment would be utilized during remediation.	Appropriate protective equipment would be utilized during remediation.	Appropriate protective equipment would be utilized during remediation.
Environmental Impacts	Minimal airborne migration of fibers from damaged ACM would continue.	Negligible.	Negligible	Negligible.	Airborne migration of fibers will be mitigated through the use of enclosures and HEPA vacuums. Appropriate equipment and personnel decontamination procedures would be used.
Time Until Remedial Action Objectives Are Achieved	Does not achieve remedial objectives.	Immediately following implementation.	Immediately following implementation.	Immediately following implementation	Immediately following implementation.

Table 11
Detailed Analysis of Remedial Alternatives
Asbestos Containing Material (ACM)
Phase I
Bossert Site, Utica NY

	Alternative 1 Implementation of an asbestos operations and maintenance program	Alternative 2 Repair	Alternative 3 Encapsulation	Alternative 4 Enclosure	Alternative 5 Removal
IMPLEMENTABILITY					
Ability to Construct and Operate the Technology	O&M is implementable. Fence locks and maintenance already implemented.	Fence locks and maintenance already implemented. Repair of damaged ACM is implementable.	Encapsulation of ACM is readily implementable. Fence locks and maintenance already implemented.	Fence locks and maintenance already implemented. Enclosure readily implementable.	Removal readily implementable.
Reliability of Technology	Fencing is reliable. O&M is not reliable for damaged ACM.	Repair of damaged ACM is a reliable technology.	Fencing is reliable. Encapsulation is unreliable for ACM damaged by water or physical contact.	Fencing is reliable for restricting access. Enclosure is reliable for inhibiting airborne fiber migration.	Removal is highly reliable for the abatement of ACM.
Ease of Undertaking Additional Remedial Actions, If Necessary	Additional remedial actions readily implemented.	Additional repair efforts readily implementable.	Additional remedial actions readily implemented.	Additional remedial actions readily implemented.	Additional removal easily undertaken, if necessary.
Ability to Monitor Effectiveness of Remedy	Visual observation during O&M would monitor effectiveness.	Visual observation during subsequent O&M would monitor effectiveness.	Visual inspection during subsequent O&M would be used to assess the effectiveness of the encapsulation.	Visual inspection of enclosures for integrity during subsequent O&M would be used to evaluate their effectiveness.	Visual inspection by licensed inspector to evaluate whether ACM was satisfactorily removed.
Coordination With Other Agencies	None necessary.	Coordination between City of Utica, NYSDEC and NYSDOH necessary to implement ACM repair.	Coordination between City of Utica, NYSDEC and NYSDOH necessary to implement encapsulation.	Coordination between City of Utica, NYSDEC and NYSDOH necessary to implement enclosure.	Coordination between City of Utica, NYSDEC and NYSDOH necessary to implement removal.
Availability of Offsite Treatment, Storage and Disposal Services and Capacities	N/A	N/A	N/A	N/A	Permitted landfill expected to be readily available.
Availability of Necessary Equipment, Specialists and Materials	Equipment, material and personnel to perform O&M expected to be readily available.	Equipment, material and personnel for ACM repair expected to be readily available.	Equipment, material and personnel for encapsulation expected to be readily available.	Equipment, material and personnel for installation of enclosures expected to be readily available.	Equipment, material and personnel for removal effort expected to be readily available.
Availability of Prospective Technologies	Readily available.	Readily available.	Readily available.	Readily available.	Readily available.
STATE ACCEPTANCE					
To be documented in the Record of Decision (ROD).					
COMMUNITY ACCEPTANCE					
To be assessed following the public comment period and documented in the ROD.					

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TABLE 12 - ASBESTOS REMOVAL
BOSSERT SITE, UTICA NY
ESTIMATED COST BREAKDOWN
Note: does not include roof ACM

Description	Quantity	Units	Unit Cost	Cost
Floor Tiles	1000	sf	$2.75	$2,750
Transite Board	2000	sf	$5.50	$11,000
Plaster Pipe Insulation	2500	lf	$16.00	$40,000
Air Cell Pipe Insulation	1500	lf	$16.00	$24,000
Plaster Pipe Fitting Insulation	300	sf	$16.00	$4,800
Piping Insulation Debris	500	sf	$6.00	$3,000
Boiler Insulation	120	sf	$32.00	$3,840
De-aerator Tank Insulation	110	sf	$32.00	$3,520
Boiler Gaskets	100	lf	$2.00	$200
Subtotal - Direct Capital Costs				$93,110

TABLE 13 – AIR MONITORING
BOSSERT SITE, UTICA NY
ESTIMATED COSTS

Material	Quantity	Units	Unit Cost	Cost

Particulate Monitoring

MIE Ram 1	60	unit day	$65	$3,900
MIE Mini–	60	unit day	$31	$1,860
Operator	60	unit day	$160	$9,600

Pipe Wrap ACM Monitoring

Sampling p	90	unit day	$5	$450
Operator	30	man day	$320	$9,600
Sample an	90	ea	$10	$900

Roof ACM Monitoring

Sampling p	600	unit day	$5	$3,000
Operator	60	man day	$320	$19,200
Sample an	600	ea	$10	$6,000

Subtotal – Direct Capital Costs $54,510

TABLE 14 - PRELIMINARY COST ESTIMATE
RECOMMENDED ALTERNATIVES
BOSSERT SITE, UTICA NY
SUMMARY OF CAPITAL COSTS

Selected Building Demolition	$176,205
Asbestos Removal	$93,110
Metal Stamping Presses	$355,650
PCB Contaminated Debris	$1,600,510
Mercury Contaminated Waste	$10,000
Crates	$10,000
Treatment System	$406,825
Subtotal Capital Cost	$2,652,300
Contingency (25%)	$663,075
Engineering (15%)	$397,845
Legal (5%)	$132,615
TOTAL - CAPITAL COSTS	$3,845,835

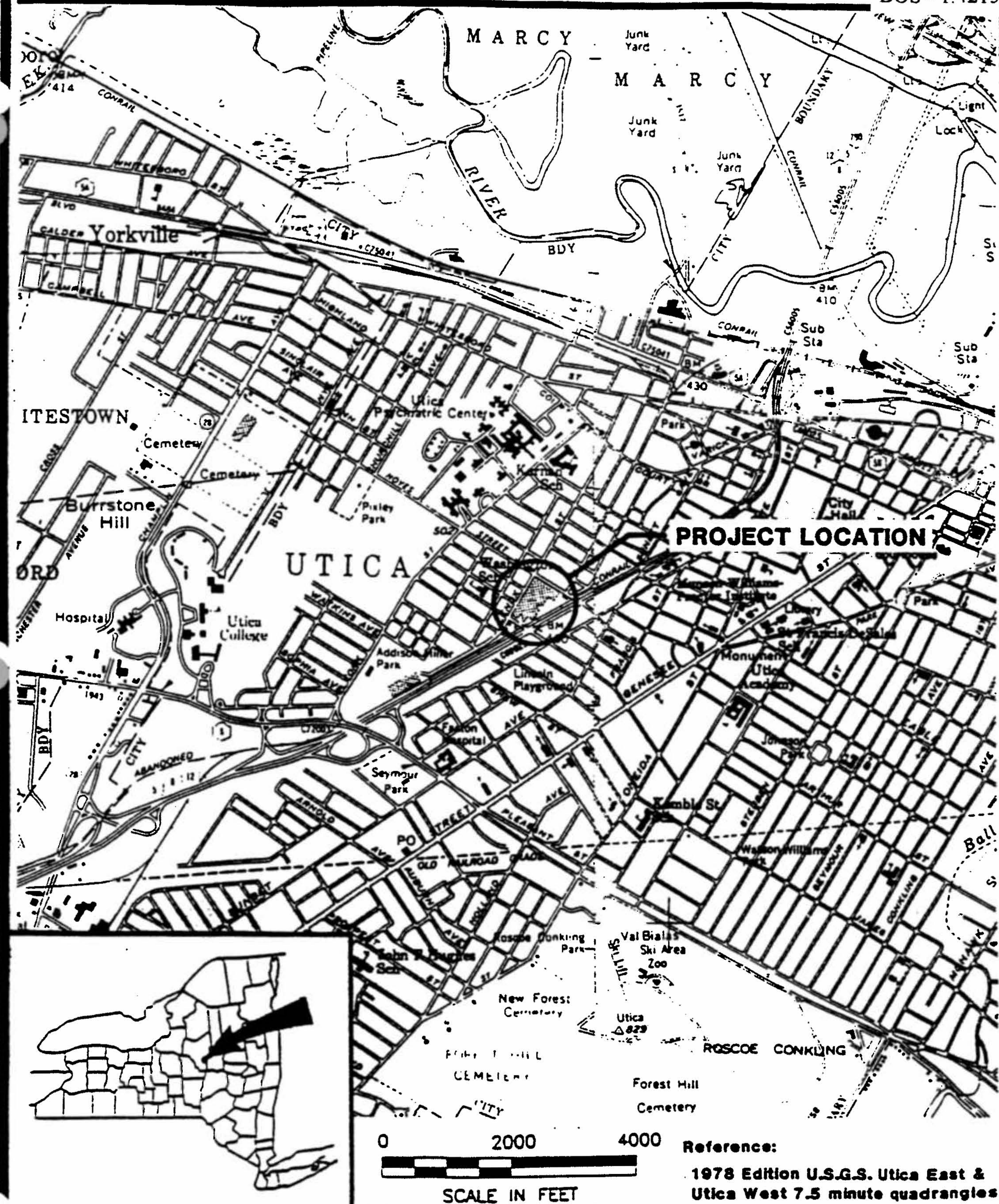
TABLE 15 - TREATMENT FACILITIES
BOSSERT SITE, UTICA NY
ESTIMATED COST BREAKDOWN

Description	Quantity	Units	Unit Cost	Cost
Treatment Facility				
Mob/demob	1	ls	$10,000	$10,000
Pumps	5	ls	$6,425	$6,425
Holding Tank	4	ls	$46,650	$46,650
Oil/Water Separator	1	ea	$2,000	$2,000
Bag Filter	2	ea	$650	$1,300
Bags	50	ea	$41	$2,050
Carbon Filter	4	ea	$700	$2,800
Piping	1000	lf	$14.30	$14,300
Sampling *	85	each	$2,000	$170,000
Instrumentation	1	ls	$1,000	$1,000
Electricity	1	ls	$1,000	$1,000
Operator	85	day	$280	$23,800
Transportation	680,000	gal	$0.05	$34,000
Treatment	680,000	gal	$0.08	$54,400
Incinerate residuals	16,500	lbs	$1.00	$16,500
Subtotal				$386,225

* Includes: Priority pollutant list

Description	Quantity	Units	Unit Cost	Cost
Truck Washing Facility				
Central Facility	1	ls	$5,000	$5,000
Washer	1	ea	$2,000	$2,000
Labor	680	hr	$20	$13,600
Subtotal				$20,600

Subtotal - Direct Capital Costs $406,825



Reference:
1978 Edition U.S.G.S. Utica East & Utica West 7.5 minute quadrangles.

O'BRIEN & GERE Stetson-Harza a HARZA Company	DATE DRAWN LRM NO. 6057	BOSSERT MANUFACTURING PLANT SITE (6-33-029) **GENERAL SITE MAP**	FIGURE 1

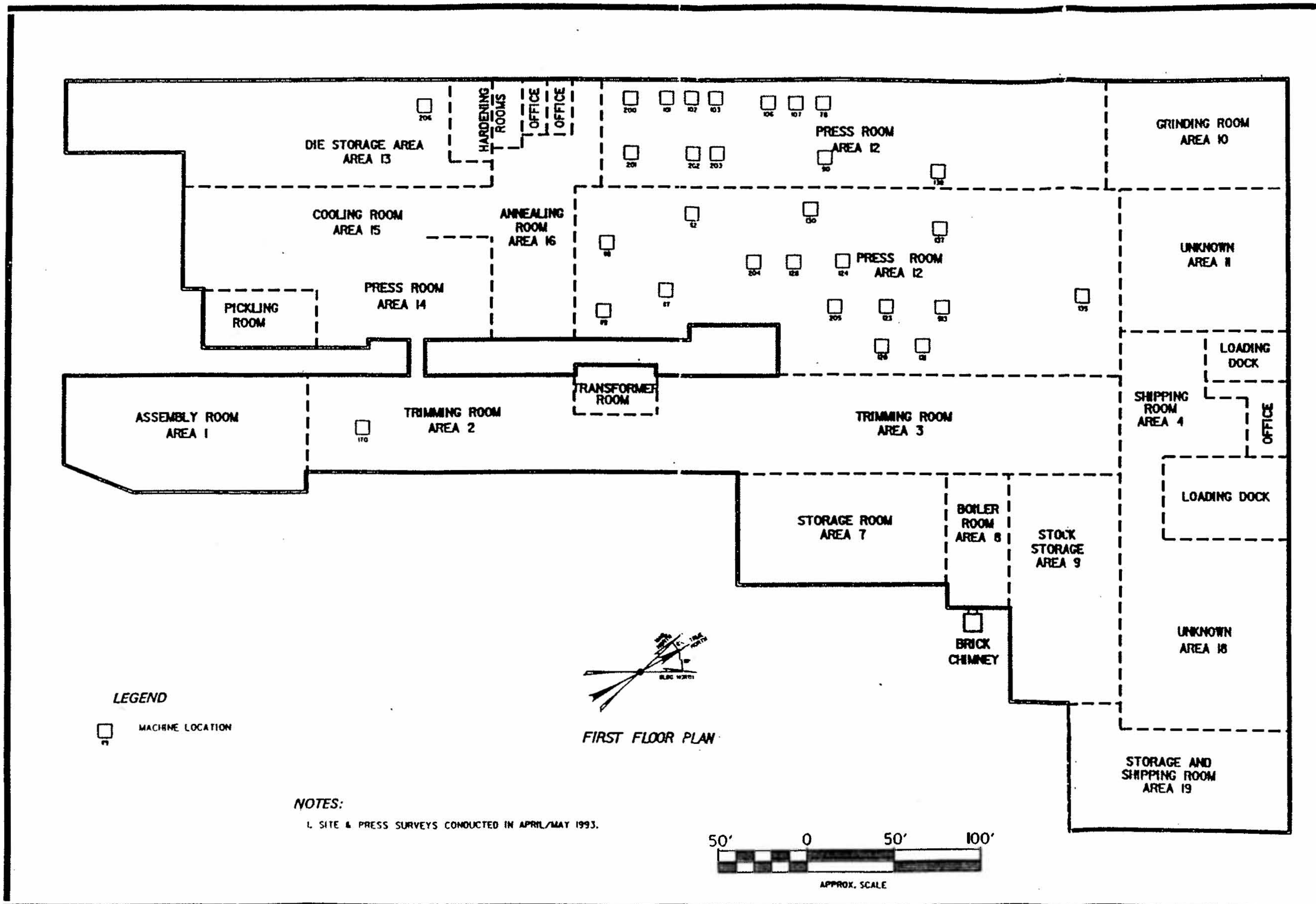


FIG. 2

BOSSERT MANUFACTURING PLANT SITE REMEDIATION

METAL STAMPING PRESS LOCATIONS

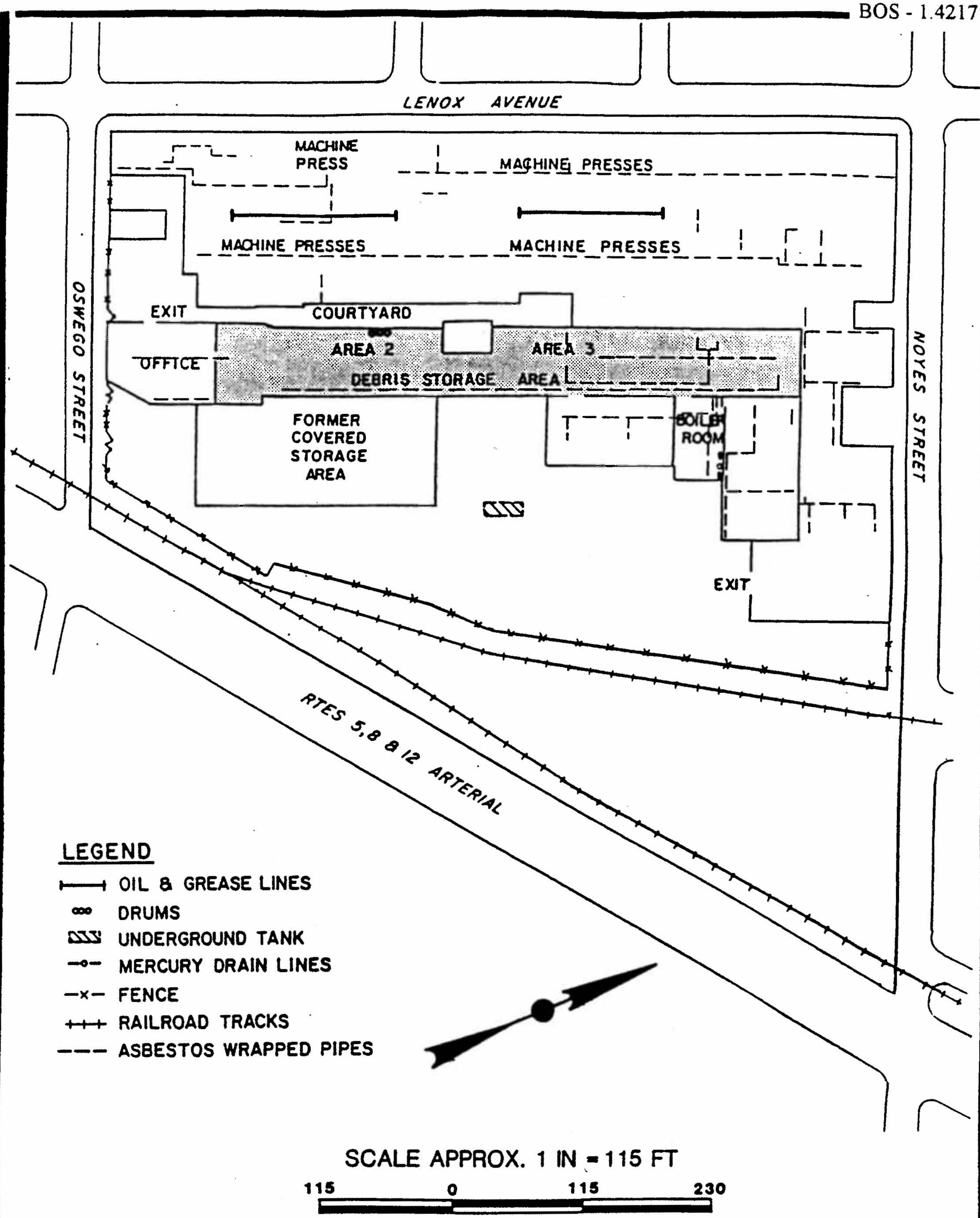
DATE 6/22/94

DRAWN JC

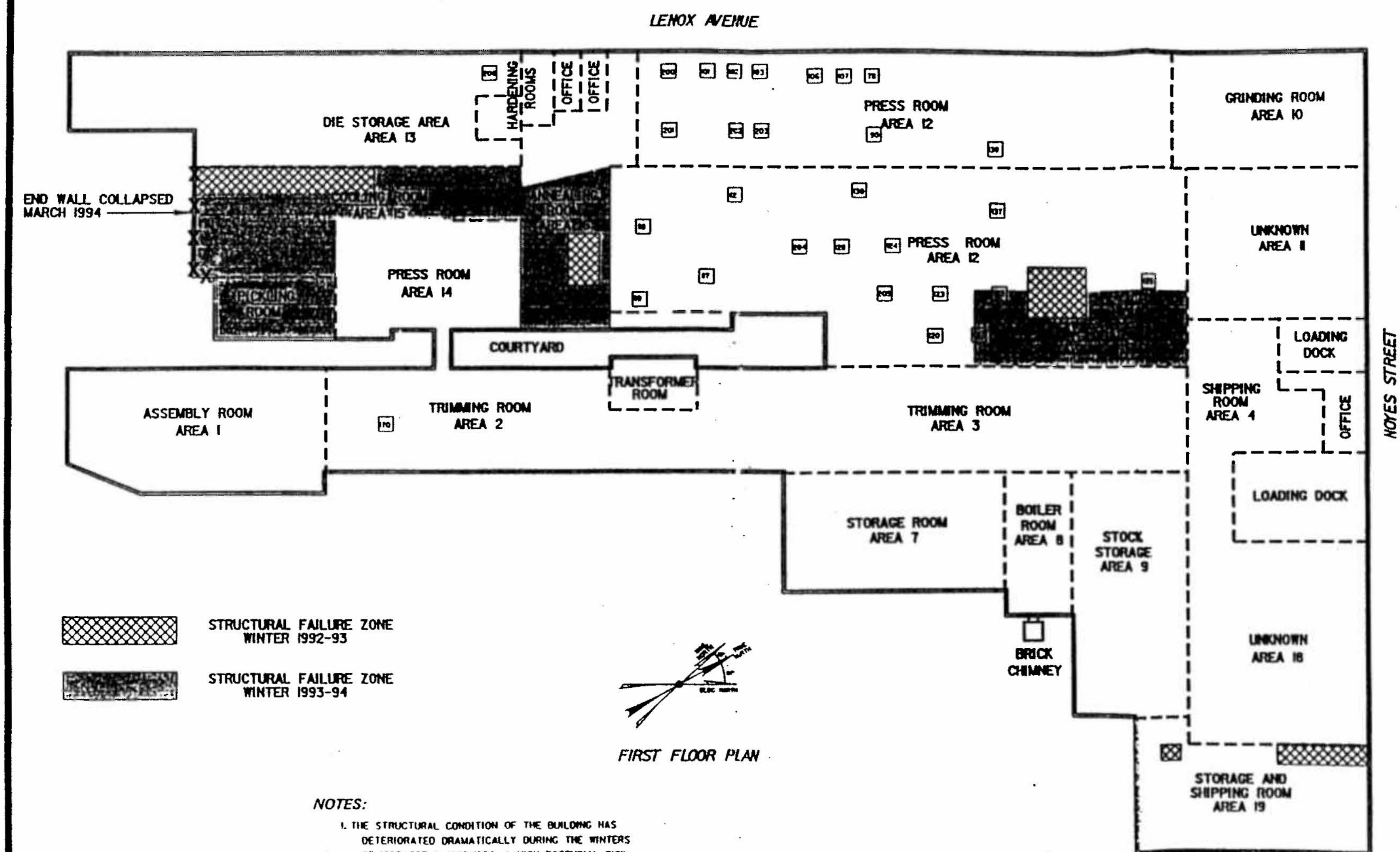
NO. 6648

Stetson-Harza
A HARZA COMPANY

BOS - 1.4216



OBRIEN & GERE Stetson-Harza A HARZA COMPANY	DATE DRAWN LRM NO. 6057	BOSSERT MANUFACTURING PLANT SITE REMEDIATION **SITE PLAN**	FIGURE **3**



FIRST FLOOR PLAN

NOTES:

1. THE STRUCTURAL CONDITION OF THE BUILDING HAS DETERIORATED DRAMATICALLY DURING THE WINTERS OF 1992-1993 & 1993-1994. A HIGH POTENTIAL RISK OF ADDITIONAL STRUCTURAL FAILURE, DETERIORATION AND COLLAPSE EXISTS IN THE FUTURE, PARTICULARLY DURING THE WINTER.

50′ 0 50′ 100′

APPROX. SCALE

FIG. 4

BOSSERT MANUFACTURING PLANT SITE REMEDIATION

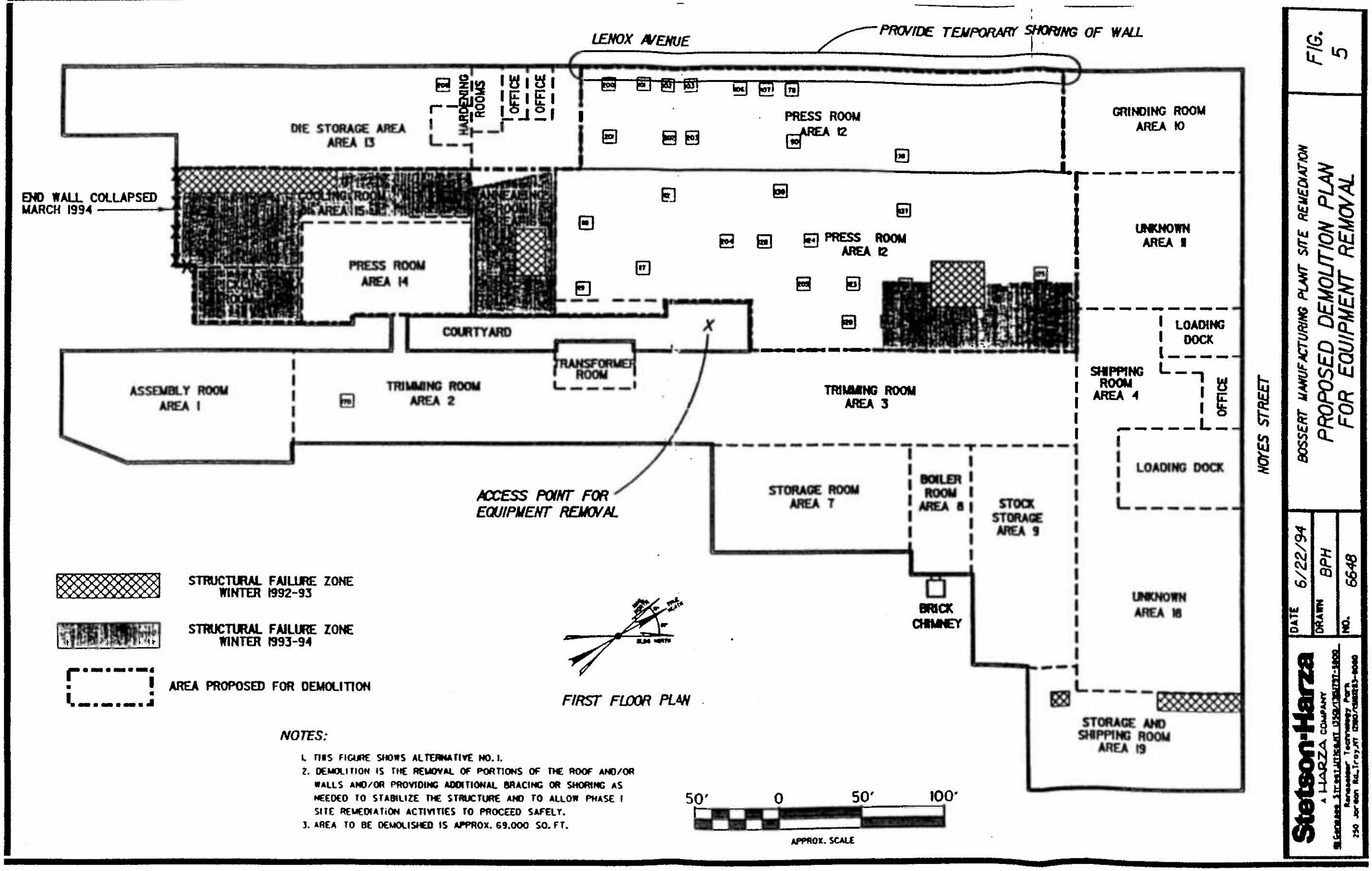
STRUCTURAL FAILURE ZONES

DATE	6/22/94
DRAWN	BPH
NO.	6648

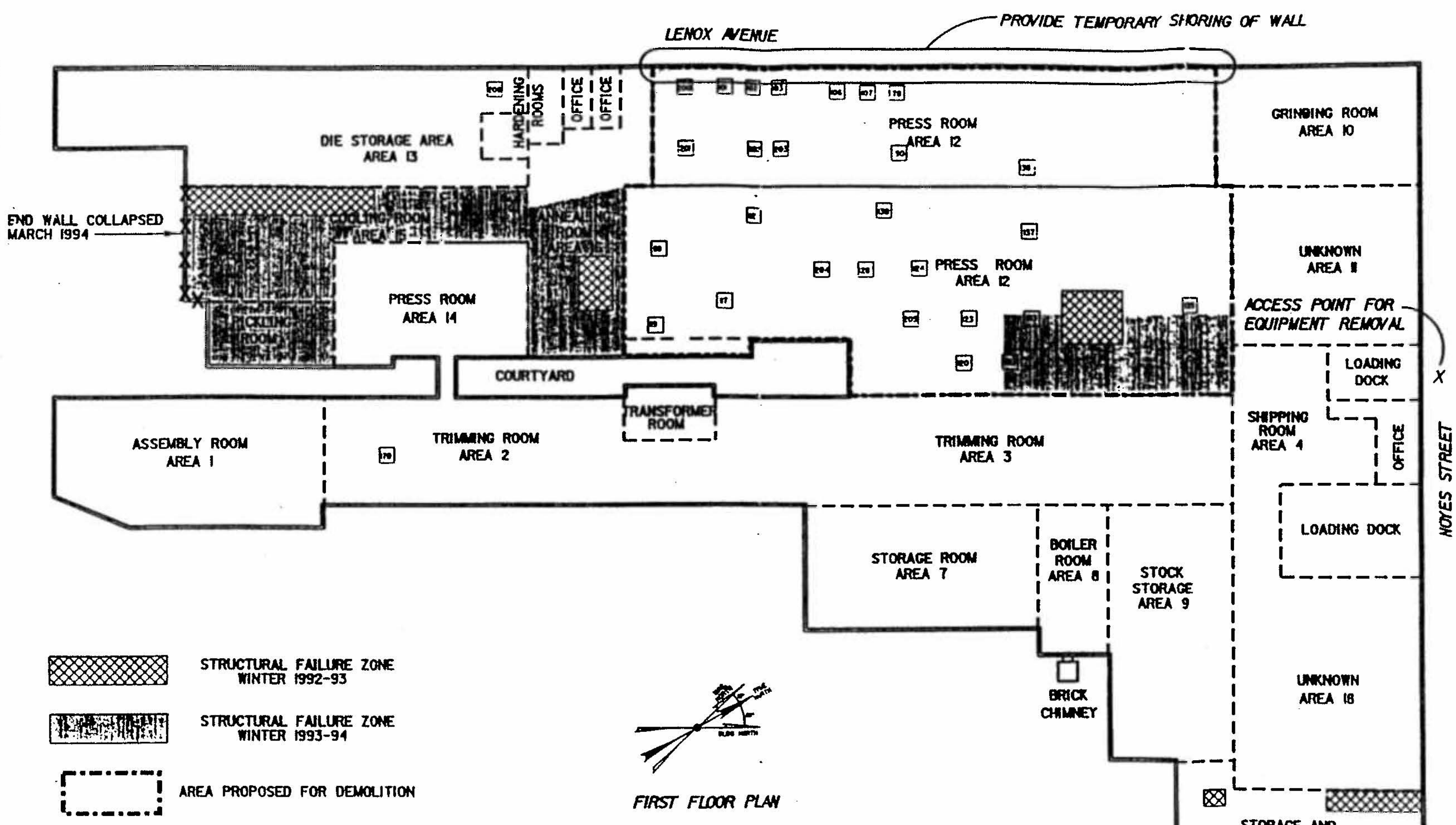
Stetson-Harza
A HARZA COMPANY

BOS - 1.4218

BOS - 1.4219



LENOX AVENUE
PROVIDE TEMPORARY SHORING OF WALL
DIE STORAGE AREA
AREA 13
HARDENING ROOMS
OFFICE
OFFICE
PRESS ROOM
AREA 12
GRINDING ROOM
AREA 10
END WALL COLLAPSED
MARCH 1994
COOLING ROOM
AREA 15
ANNEALING ROOM
PRESS ROOM
AREA 14
PRESS ROOM
AREA 12
UNKNOWN
AREA 11
LOADING DOCK
COURTYARD
TRANSFORMER ROOM
ASSEMBLY ROOM
AREA 1
TRIMMING ROOM
AREA 2
TRIMMING ROOM
AREA 3
SHIPPING ROOM
AREA 4
OFFICE
NOYES STREET
LOADING DOCK
ACCESS POINT FOR
EQUIPMENT REMOVAL
STORAGE ROOM
AREA 7
BOILER ROOM
AREA 8
STOCK STORAGE
AREA 9
BRICK CHIMNEY
UNKNOWN
AREA 16
STORAGE AND SHIPPING ROOM
AREA 19
STRUCTURAL FAILURE ZONE
WINTER 1992-93
STRUCTURAL FAILURE ZONE
WINTER 1993-94
AREA PROPOSED FOR DEMOLITION
FIRST FLOOR PLAN
NOTES:
1. THIS FIGURE SHOWS ALTERNATIVE NO. 1.
2. DEMOLITION IS THE REMOVAL OF PORTIONS OF THE ROOF AND/OR WALLS AND/OR PROVIDING ADDITIONAL BRACING OR SHORING AS NEEDED TO STABILIZE THE STRUCTURE AND TO ALLOW PHASE I SITE REMEDIATION ACTIVITIES TO PROCEED SAFELY.
3. AREA TO BE DEMOLISHED IS APPROX. 69,000 SQ. FT.
50′
0
50′
100′
APPROX. SCALE
FIG. 5
BOSSERT MANUFACTURING PLANT SITE REMEDIATION
PROPOSED DEMOLITION PLAN
FOR EQUIPMENT REMOVAL
DATE 6/22/94
DRAWN BPH
NO. 6648
Stetson-Harza
A HARZA COMPANY



NOTES:

1. THIS FIGURE SHOWS ALTERNATIVE NO. 2.
2. DEMOLITION IS THE REMOVAL OF PORTIONS OF THE ROOF AND/OR WALLS AND/OR PROVIDING ADDITIONAL BRACING OR SHORING AS NEEDED TO STABILIZE THE STRUCTURE AND TO ALLOW PHASE I SITE REMEDIATION ACTIVITIES TO PROCEED SAFELY.
3. AREA TO BE DEMOLISHED IS APPROX. 51,000 SQ. FT.

50′ 0 50′ 100′

APPROX. SCALE

FIG. 6

BOSSERT MANUFACTURING PLANT SITE REMEDIATION

PROPOSED DEMOLITION PLAN FOR EQUIPMENT REMOVAL

DATE	6/22/94
DRAWN	BPH
NO.	6648

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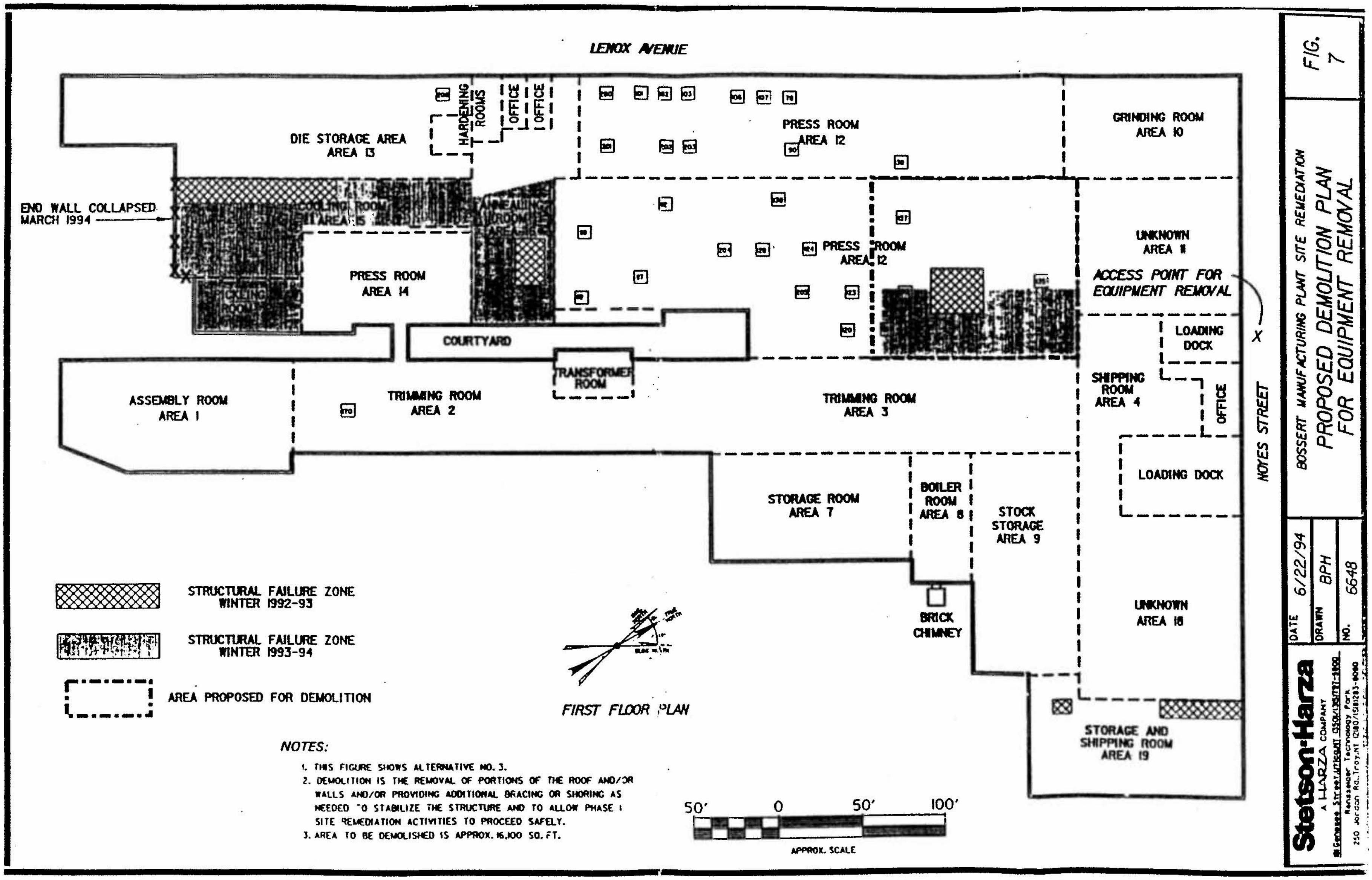
BOS - 1.4220

BOS - 1.4221


LENOX AVENUE
DIE STORAGE AREA
AREA 13
HARDENING ROOMS
OFFICE
OFFICE
PRESS ROOM
AREA 12
GRINDING ROOM
AREA 10
END WALL COLLAPSED
MARCH 1994
COOLING ROOM
AREA 15
PRESS ROOM
AREA 12
UNKNOWN
AREA 11
ACCESS POINT FOR
EQUIPMENT REMOVAL
PRESS ROOM
AREA 14
COURTYARD
LOADING DOCK
TRANSFORMER ROOM
ASSEMBLY ROOM
AREA 1
TRIMMING ROOM
AREA 2
TRIMMING ROOM
AREA 3
SHIPPING ROOM
AREA 4
OFFICE
NOYES STREET
LOADING DOCK
STORAGE ROOM
AREA 7
BOILER ROOM
AREA 8
STOCK STORAGE
AREA 9
BRICK CHIMNEY
UNKNOWN
AREA 16
STORAGE AND SHIPPING ROOM
AREA 19
STRUCTURAL FAILURE ZONE
WINTER 1992-93
STRUCTURAL FAILURE ZONE
WINTER 1993-94
AREA PROPOSED FOR DEMOLITION
FIRST FLOOR PLAN
NOTES:
1. THIS FIGURE SHOWS ALTERNATIVE NO. 3.
2. DEMOLITION IS THE REMOVAL OF PORTIONS OF THE ROOF AND/OR WALLS AND/OR PROVIDING ADDITIONAL BRACING OR SHORING AS NEEDED TO STABILIZE THE STRUCTURE AND TO ALLOW PHASE I SITE REMEDIATION ACTIVITIES TO PROCEED SAFELY.
3. AREA TO BE DEMOLISHED IS APPROX. 16,100 SQ. FT.
50' 0 50' 100'
APPROX. SCALE
BOSSERT MANUFACTURING PLANT SITE REMEDIATION
PROPOSED DEMOLITION PLAN
FOR EQUIPMENT REMOVAL
FIG. 7
DATE 6/22/94
DRAWN BPH
NO. 5648
Stetson-Harza
A HARZA COMPANY

APPENDIX A

SUMMARY OF SITE HISTORY

Bossert Site
Site No. 6-33-029
Activity Timeline

Date	Activity
Dec. 1989	Order on consent entered between City and NYSDEC
June 1990	Contract entered between O'Brien & Gere Engineers and City of Utica for removal action at Bossert
April 1991	State Assistance Contract entered between City and NYSDEC
Aug. 1992	Overall project outline prepared by NYSDEC
Oct. 1992	Conducted investigation and remedial action plan prepared by O'Brien & Gere
Jan. 1993	Draft site history report submitted by O'Brien & Gere Public meeting Utica, NY
April 1993	Roof collapse observed
May 1993	Site survey including geophysical survey completed.
July 1993	Site tour with city of Utica public & Fire Dept's. Security Plan submitted to NYSDEC. Safety Plan submitted to NYSDEC. Hazardous debris observed on-site.

BOS - 1.4223

Bossert Site
Site No. 6-33-029
Activity Timeline

Aug. 1993
- Bids for security & safety measures implementation solicited.
- Security/safety measures prebid meeting held.

Sept. 1993
- Field Sampling Plan submitted by O'Brien & Gere.
- Petrone & Petrone retained by the City for pursuit of PRP's.
- Test-pit to investigate geophysical anamoly completed.
- Brush clearing around facility by City initiated.

Oct. 1993
- Hazardous chemical removal performed.

Nov. 1993
- Security and safety measures implemented.
- Citizen Participation Plan prepared by NYSDEC.
- Site tour.

Dec. 1993
- Phase I Work Plan submitted by O'Brien & Gere.
- Pilot demonstration project performed by OBG Technical Services.
- Field Sampling Plan implemented.

July 1994
- Data Validation Report submitted by Toxikon, Corp.
- Roof sampling for PCBs and asbesto performed by O'Brien & Gere.

Sept. 1994
- Site Investigation Report and Associated Regulatory Requirements submitted O'Brien & Gere

Nov. 1994
- Analysis of Alternates Report submitted by O'Brien & Gere

APPENDIX B

LETTER FROM RAY LUPE, NYSDEC

BOS - 1.4226

New York State Department of Environmental Conservation
50 Wolf Road, Albany, New York 12233-7010

Langdon Marsh
Acting Commissioner

June 29, 1994

Mr. John Zegarelli, P.E.
City of Utica
One Kennedy Plaza
Utica, NY 13502

Dear Mr. Zegarelli:

RE: Bossert 6-33-029
Draft Site Characterization Report and
Draft Building Debris and Machinery
Disposal Options Report

The Draft Site Characterization Report and Draft Building Debris and Machinery Disposal Options Report submitted in May 1994 have been reviewed. The specific comments on the reports are included in Attachments 1 & 2 to this letter. The general comments on the reports are as follows:

I. <u>Bossert Site Characterization Report</u>

1. Overall the report was satisfactory and can be finalized by incorporating the comments in Attachment 1 into the report.

2. The final site Characterization Report should be submitted by July 15, 1994 pursuant to the schedule sent to you in my May 23, 1994 letter.

3. The results of the additional sampling to be conducted at the Bossert Site during July 1994 will also need to be incorporated into the Site Characterization Report. This may need to be accomplished by means of an addendum to the original report.

II. **Building Debris and Machinery Disposal Options Report**

1. It is recognized that the report was meant to be conceptual in nature. The report should now be expanded into a complete Analysis of Alternatives Report.

2. The Analysis of Alternatives Report is considered engineering. Therefore, the Report and all plans and specifications must be signed and stamped by a licensed professional engineer representing a firm certified to practice engineering in New York State.

3. Many disposal options were eliminated prematurely due solely to potential liability concerns without regard to technical feasibility and/or cost effectiveness.

4. Regulatory requirements need to be reviewed and discussed in more detail to determine options for disposal that will reduce costs and which will be in compliance with current regulatory requirements. Enclosed are the following documents which will provide some guidance on this matter:

   a) TAGM 3028 - "Contained-In" Criteria for Environmental Media, Nov. 1992

   b) Portions of 40 CFR 268.45 and an Oct. 1, 1993 letter from Mr. Nadler to Mr. T.L. Nebrich, Jr. regarding this regulation.

5. Additional comments that must be addressed to produce a satisfactory report are outlined in Attachment 2.

6. Five copies of the complete Analysis of Alternatives Report (Building Debris and Machinery Disposal Options) must be submitted by August 1, 1994 pursuant to the schedule sent to you in my May 23, 1994 letter.

I have provided a copy of these comments and regulatory documents to both Jeff Banikowski (O'Brien and Gere) and John Brady (Stetson Harza). Please direct them to address these comments within the timeframes requested.

If you have any questions, please call Jim Reagan or me directly.

Sincerely,

Raymond E. Lupe
Chief
Central Superfund Projects
Bureau of Central Remedial Action
Div. of Hazardous Waste Remediation

Enc.

cc: J. Banikowski - w/enc.
J. Brady - w/enc.
L. Petrone
R. Griffiths

Attachment 1

Comments on Bossert Site
Draft Characterization Study
May 1994

General: Overall the report is satisfactory and can be finalized with minimal efforts.

1. Page 14, Section 4.1 - The significance of decontamination to 10 ug/100 cm^2 needs to be discussed relative to health significance and cleanup guidance for reuse. For example, if the presses were decontaminated to less than 10 ug/100 cm^2 could they possibly be left in place or what cleanup level allows unrestricted salvage?

2. The Remedial Objectives should be identified as preliminary and subject to refinement in the Building Debris and Machine Disposal Options Report. A statement to that effect should be included in the first paragraph of Section 5.2. The heading of 5.2 should also be Preliminary Remedial Objectives.

3. Page 21, Remedial Objectives - All remedial objectives need to include the concept of cost effectiveness.

4. Page 22 - The last remedial objective must be modified to read: "Minimize through selective building demolition or bracing, the physical hazards presented by the structure which must be addressed to conduct the Phase 1 remedial actions safely".

5. The Remedial Objectives and section 4.1.6 need to identify why asbestos is of concern. Removal of asbestos is a non-eligible Title 3 cost unless it is needed to conduct the removal of the other debris or machinery safely due to the friable nature of the asbestos or to avoid spreading asbestos contamination during remediation.

6. References - A copy of the USEPA, 1993 Letter, Ernest Regna to Kyle Thomas must be included in the appendices.

Attachment 2

Comments on Bossert Site
Draft Report, Building Debris and Machine Disposal Options
May 1, 1994

1. The report is a conceptual outline of the preliminary screening and needs to be expanded to include:

    - Chapter 1 - Review of regulatory requirements including "Contained In" rule; limitations and decontamination requirements for reuse or disposal as non-hazardous waste; location of landfills that could be used to dispose of materials as non-hazardous waste (in state or out of state).

    - Chapter 2 - Refinement of Remedial Objectives, breakdown of quantities of various types of materials to be handled, criteria that must be met.

    - Chapter 3 - Identification and Preliminary Screening of Alternatives.

    - Chapter 4 - Detailed Technical and Feasibility Evaluation and Cost Effectiveness Analysis.

    - Chapter 5 - Recommended Course of Action.

    - Chapter 6 - Conceptual Design and Preliminary Cost Estimate.

2. The number of machine disposal options could be greatly streamlined by first screening in-place; off-site; and on-site (central) decontamination options.

3. An alternative that identifies decontamination in-place to less than 10 ug/100 cm^2 of PCBs and leaving the presses in the building should be included in the assessment.

4. Several alternatives involving reuse were prematurely eliminated based on potential liability presenting unacceptable risks. This is not cost effective and would be unwarranted if the presses are decontaminated. Various levels of decontamination would allow reuse and/or disposal as non-PCB wastes in compliance with applicable or appropriate regulations and must be carried into the detailed evaluation and cost effectiveness analysis.

5. Many of the entries in Table 1 are unclear or are considered incorrectly. The table needs to be revised.

6. Table Number 2, Building Debris disposal options does not adequately consider such things as the cost of unnecessarily disposing of non-hazardous/PCB waste in a hazardous waste landfill. The potential to segregate wood based on visual staining and the potential to separate and decontaminate the metal should be evaluated. This table needs to be revised to consider such options.

7. The listing of landfills that would accept the wastes and firms that could salvage the machines is useful for costing purposes. However, the recommended method of removal must consider the regulatory requirements which must be met and the cost effectiveness of the options. For example, are all the landfills, interested in accepting the low level PCB contaminated wastes, properly permitted to receive these wastes? Normally, the contractor is required to provide proof the facilities used for disposal are properly permitted to receive the wastes.

8. The detailed screening for both the machines and debris should include an assessment of the volumes of materials to be handled, costs of decontamination and problems of handling decontamination residuals, practicality and cost effectiveness of performing the work, and implications of cost of disposing of all the materials in a hazardous waste landfill. In addition, potential limitations on the size of debris that may be disposed should be evaluated.

APPENDIX C

PERSONNEL COMMUNICATION WITH DAVID GREENLAW, USEPA

O'BRIEN & GERE ENGINEERS, INC. **MEMORANDUM**

To: File *cc:* Scott Braymer
From: Jeff Banikowski
Re: Phone conversation with Mr. David Greenlaw, U.S.EPA Region 2
File: 450.046
Date: July 18, 1994

On July 12, 1994, this writer held a phone conversation with Mr. Greenlaw, U.S.EPA Region 2, PCB Program Coordinator. The purpose of the phone conversation was to discuss U.S.EPA's position relative to remediation of the Bossert facility. It should be noted that Mr. Greenlaw was familiar with the site and indicated that he had conversed with Mr. Kyle Thomas (O'Brien & Gere Engineers, Inc.) on several occasions. Mr. Greenlaw offered the following information:

- The PCB hydraulic machines contained within the Bossert facility are subject to regulations under 40 CFR Part 761.60, subpart D. These regulations indicate that, if the hydraulic oil contained within the machines is less than 1000 ppm PCBs, then the only requirement for disposal of the machines (i.e. disposal of as a municipal solid waste or salvage) is that the oil be drained from the hydraulic reservoir. In the event that the hydraulic oil contained in the reservoir is greater than 1000 ppm PCBs, the hydraulic machine would require flushing with a solvent prior to disposal. In this case, Mr. Greenlaw noted that it was likely that the solvent would be regulated as a hazardous waste under 40 CFR Part 261 and applicable state regulations. (A copy of 40 CFR Part 761.60, subpart D and its 6 NYCRR counterpart is attached).

- Mr. Greenlaw indicated that, although the regulations would not require exterior cleaning of the machines under the scenario provided above, his agency would not be receptive to removal of the machines without a gross exterior cleaning to remove grease and accumulated oils. He further indicated that no testing of the exterior would be necessary to evaluate the exterior cleanliness of the machines, only visual observations that the machines were (relatively) clean.

- Mr. Greenlaw stated that 40 CFR 1761.60, subpart D requires removal of the machines off-site; it does not authorize the machines to be left in place. Mr. Greenlaw indicated that a satisfactory level of cleanliness for leaving the machine on-site would be 10 ug/100 cm^2, as provided in 40 CFR Part 761 (PCB Spill Clean-up Policy). However, Mr. Greenlaw stated that he had reservations about attempting to clean the metal stamping presses at Bossert to this level without taking them apart to permit a thorough cleaning of hard to reach parts.

- Mr. Greenlaw noted that BIF regulations may affect the selection of smelters who could reclaim the presses and suggested that we contact Mr. John Brogard (U.S.EPA) to discuss specific air discharge regulations governing reclaimation of the presses by smelting.

APPENDIX D

PERSONNEL COMMUNICATION WITH JOHN MICCOLI, NYSDEC

O'BRIEN & GERE ENGINEERS, INC. **MEMORANDUM**

To: File
From: Jeff Banikowski
Re: Phone conversations with Bill Yeomans and John Miccoli, NYSDEC RCRA Program
File: 450.046
Date: July 18, 1994

cc: Scott Braymer
Kyle Thomas

On Monday, July 11, 1994, this writer and Scott Braymer held a phone conversation with Bill Yeomans and John Miccoli, NYSDEC. The purpose of the phone conference (initiated by this writer at the direction of Ray Lupe, NYSDEC Project Supervisor) was to obtain information from NYSDEC relative to the application of 6 NYCRR Parts 370-376 to Phase 1 of the Bossert Site clean-up. During the conversation, Mr. Yeomans and Mr. Miccoli offered the following information:

- The PCB waste streams at Bossert would be classified as either B002 waste or B007 waste. Specifically, the debris in areas 2 and 3 is a B007 waste, while hydraulic oil exceeding 50 ppm PCBs is a B002 waste for disposal purposes.

- Mr. Miccoli emphasized the notification, certification requirements needed to comply with the treatment, shipment, and disposal of PCBs as a state listed hazardous waste. Mr. Miccoli indicated that the City would act as generator of the material and that the waste would be manifested under 6 NYCRR 372.2.

- Mr. Miccoli indicated that U.S.EPA 40 CFR Part 761 carries the burden for waste exiting regulatory requirements in that the U.S.EPA would need to provide an opinion as to remedial alternatives at the Bossert Site for disposal of PCB containing waste materials. He indicated that if TSCA agrees with the NYSDEC as to the disposal of the material in question, that the regulations would be sufficiently satisfied.

- Mr. Miccoli indicated that he would like his office to receive a copy of a summary report providing our recommended approach for Phase 1 remediation at Bossert prior to finalization of the FS. He indicated that correspondence should be sent to Larry Naddler, Section Chief.

- Mr. Miccoli indicated that, in the event that the metal stamping presses were decontaminated using a solvent or detergent wash, that the filter used in cleaning the waste would likely concentrate PCBs to the extent that they would be regulated as a hazardous waste.

Both Mr. Yeomans and Mr. Miccoli indicated that they would be receptive to further conversations if the need arose during development of the FS. Each individual was quite helpful in explaining NYSDEC's position relative to PCB waste streams.

APPENDIX E

LETTER FROM ERNEST REGNA, USEPA

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION II
EDISON, NEW JERSEY 08837

RECEIVED
AUG 12 1993

August 6, 1993

Kyle F Thomas, Scientist
O'Brien & Gere Engineers, Inc.
P.O. Box 4873
5000 Brittonfield Parkway
Syracuse, New York 13221

Dear Mr. Thomas:

In your letter of February 19, 1993 to Mr. Daniel Kraft you requested that EPA review issues pertaining to the cleanup and disposal of PCB contaminated materials at the Bossert Site in Utica New York. The Bossert Site was the subject of a CERCLA emergency response by USEPA Region II. When the emergency removal action was complete there remained two stockpiles of potentially PCB contaminated materials in addition to potentially contaminated equipment, buildings and appurtenances. The city of Utica, New York now owns the property and your firm is performing an investigation and remedial design to address the remaining contamination on the property. We have reviewed the information you provided and provide the following conclusions:

1. Based on the nature of the materials and the history of the site (specifically USEPA's activities under CERCLA) materials may be segregated for disposal based on their actual PCB concentration. (PCBs may not be diluted by the City of Utica or its agents to avoid a concentration based requirement other than as provided in the PCB regulations for activities such as cleanup of surfaces and decontamination. This is the same restriction as applies to CERCLA activities under the Superfund PCB Policy)

2. Sampling of debris is to determine if "hot spots" with PCB concentrations greater than 50 ppm are in each portion of debris. You have indicated that debris will be sorted by type and visible contamination. Once sorted, the debris will be sampled to characterize it for disposal. The debris should be delineated into batches with at least one sample per batch. The maximum batch size is twenty cubic yards. If any sample from a batch is over 50 ppm PCBs then the batch would be handled as being over 50 ppm PCBs.

APPENDIX F

LETTER FROM JIM REAGAN, NYSDEC

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION II
EDISON, NEW JERSEY 08837

RECEIVED
AUG 12 1993

August 6, 1993

Kyle F Thomas, Scientist
O'Brien & Gere Engineers, Inc.
P.O. Box 4873
5000 Brittonfield Parkway
Syracuse, New York 13221

Dear Mr. Thomas:

In your letter of February 19, 1993 to Mr. Daniel Kraft you requested that EPA review issues pertaining to the cleanup and disposal of PCB contaminated materials at the Bossert Site in Utica New York. The Bossert Site was the subject of a CERCLA emergency response by USEPA Region II. When the emergency removal action was complete there remained two stockpiles of potentially PCB contaminated materials in addition to potentially contaminated equipment, buildings and appurtenances. The city of Utica, New York now owns the property and your firm is performing an investigation and remedial design to address the remaining contamination on the property. We have reviewed the information you provided and provide the following conclusions:

1. Based on the nature of the materials and the history of the site (specifically USEPA's activities under CERCLA) materials may be segregated for disposal based on their actual PCB concentration. (PCBs may not be diluted by the City of Utica or its agents to avoid a concentration based requirement other than as provided in the PCB regulations for activities such as cleanup of surfaces and decontamination. This is the same restriction as applies to CERCLA activities under the Superfund PCB Policy)

2. Sampling of debris is to determine if "hot spots" with PCB concentrations greater than 50 ppm are in each portion of debris. You have indicated that debris will be sorted by type and visible contamination. Once sorted, the debris will be sampled to characterize it for disposal. The debris should be delineated into batches with at least one sample per batch. The maximum batch size is twenty cubic yards. If any sample from a batch is over 50 ppm PCBs then the batch would be handled as being over 50 ppm PCBs.

Debris with impervious surfaces must be disposed as a PCB waste if it is contaminated with PCBs at more than 100 $\mu g/100\ cm^2$ as measured by standard wipe tests. This type of debris may be decontaminated as an alternative to disposal as a PCB waste.

3. As Mr. Greenlaw of my staff has mentioned, non-PCB disposal facilities may limit the level of PCB contamination they will accept to significantly less then 50 ppm. Also, many disposal facilities (PCB and non-PCB) have their own sampling plan requirements. For these reasons it may be important to have input from the disposal facilities early to avoid conflicts with their criteria. We do not have specific information on these disposal requirements.

4. The proposed cleanup level of 10 ppm PCBs for soils and concrete slab foundations to be left on the site is appropriate based on EPA's requirements.

5. Building interiors should be cleaned up to the standards in the PCB Spill Cleanup Policy (Spill Policy), Subpart G of 40 C.F.R. Part 761. Surface based cleanup criteria may be applied to concrete and other porous materials provided the material is also sampled in some locations, usually where contamination is/was the greatest, to demonstrate that by cleaning the surface the PCB contamination has been substantially addressed. If normal cleanup procedures cannot achieve the standards in the Spill Policy we will be happy to discuss alternatives.

6. Equipment cleaned to 10 $\mu g/100\ cm^2$ is unrestricted by the PCB regulations. Equipment cleaned to 100 $\mu g/100\ cm^2$ may be disposed as a non-PCB waste. Disposed means that this equipment would be smelted, shredded or otherwise destroyed. Disposed does not include reused as parts.

We hope the above discussion address the issues raised in your letter. We will be ready to assist you in clarifying any issue related to the PCB regulations that arises in the course of this remediation. Formal EPA approval is not required to implement this PCB remediation. If you need any further assistance you may call Mr. David Greenlaw at (908) 906-6817

Sincerely,

Ernest A. Regna

Ernest A. Regna, Chief
Pesticides and Toxic Substances Branch

New York State Department of Environmental Conservation
'n Wolf Road, Albany, New York 12233-7010

Langdon Marsh
Commissioner

October 18, 1994

Mr. David Greenlaw MS-105
PCB Program Coordinator
U.S. EPA Region II
2890 Woodbridge Avenue
Edison, NJ 08837-3679

Dear Mr. Greenlaw:

RE: City of Utica, New York - Title 3 Project; NYSDEC Region 6, Oneida County; Bossert Manufacturing - Phase I Remediation, Site Code: 6-33-029

Thank you for taking the time to discuss certain PCB/TSCA requirements with respect to the above-referenced Bossert Title 3 Project with me previously on September 27, 1994 by telephone.

As you are already aware, there have been a number of previous discussions related to this site between U.S. EPA Region II staff (including yourself) and staff at O'Brien and Gere Engineers Inc. (Syracuse, New York) the City of Utica's primary engineering consultant for the Bossert Project, in particular, Jeffrey Banikowski and Kyle Thomas (other staff may have been included also). Many questions regarding TSCA (PCB) requirements were answered during the past several months by these previous discussions.

At this time, we are in the process of reviewing the Phase I Draft Analysis of Remedial Alternatives Report (August 1994) for the Bossert Site. Some additional questions have arisen during this review process regarding PCB/TSCA issues related to proposed Phase I Remedial Alternatives #3 and #4 for the 28 large hydraulic and mechanical metal stamping presses remaining at the Bossert Site.

Alternative #3 involves "external cleaning, draining, disassembly, and transport to a scrap yard for recycling." Alternative #4 is similar to Alternative #3 except that the final step involves "transport to a smelter" or steel mill for direct remelt/recycling.

My question regarding proposed Alternatives #3 and #4 was basically two-part as follows:

a. What degree of disassembly of these 28 large metal stamping presses will be required prior to shipping the presses and/or components off-site for remelt/recycling to a metal scrapyard or (directly) to a smelter, steel mill or foundry? and

b. What TSCA requirements must be met by this material (press parts, components or assemblies) prior to shipment to a scrapyard or smelter?

For parts "a and b" my understanding of the applicable regulatory requirements and guidelines based upon our earlier discussions is as follows: As has been previously indicated, the primary regulatory requirement is to drain the hydraulic machines (presses) of all free flowing liquids (hydraulic oils or fluids). Machinery containing hydraulic fluids which contain more than 1000 ppm PCBs; after being drained, must then be rinsed or flushed with a fluid which is a solvent for PCBs and which initially contains < 50 ppm PCBs. This used or spent solvent must also be treated as a PCB waste under TSCA. Also, per TSCA requirements, all liquids which contain PCBs at concentrations of 500 ppm or above must be disposed of by incineration. Liquids containing PCB concentrations between 50 ppm and 500 ppm must be disposed of per TSCA requirements. Strictly speaking, these are the primary regulatory requirements which would apply to the disposal of these hydraulic machines by recycling as scrap metal.

Recent Phase I Investigation conducted at the Bossert Site during December 1993 indicates that very minimal amounts of hydraulic oils or fluid remain at the Bossert Site at this time and that these small amounts of fluid generally contain significantly less than 500 ppm total PCBs. The small quantities of residual hydraulic fluids which may remain within the metal stamping presses can likely be bulked together for final analysis and disposal during Phase I Remedial Construction. Large quantities (several thousand gallons) of PCB contaminated hydraulic oils or fluids (some at concentrations above 500 ppm PCBs) were removed from the Bossert Site for proper off-site disposal during the prior USEPA Emergency Response Action conducted during 1986 and 1987.

Because of the size, weight, location and configuration of these large metal stamping presses; as a practical matter, some disassembly or dismantling of these large presses will be required before they can be transported off-site and scrapped or recycled. Complete and total disassembly of the presses does not appear to be required. However, the USEPA strongly recommends a relatively thorough gross decontamination of the press components, prior to their shipment off-site for remelt as scrap. To ensure that an effective and complete gross PCB decontamination is achieved for these press component parts, a fairly complete disassembly of the presses will be required. This will also be necessary to ensure that no free flowing PCB liquids remain trapped inside the presses or their component parts (including any liquids which might be retained inside by chance or accident). Although not necessarily a regulatory requirement, some periodic random wipe testing of the component parts following decontamination is strongly recommended, to evaluate the effectiveness of the decontamination process. A generalized goal of the gross decontamination would be to achieve a PCB surface contamination level of $\leq$ 100 ug/100 cm^2 following gross decontamination. The decontamination process should be tuned or adjusted to meet this general goal level, if feasible and possible. If it is not feasible or possible to reach this maximum PCB surface contamination level following the gross decontamination process, then this information (remaining PCB surface contamination levels) should be noted on the shipping manifests for the press component parts.

The issue of whether or not a scrapyard or smelter located outside of the United States could be used for recycling of the press components was also briefly discussed. From a regulatory standpoint, it is preferable if these facilities are located within the United States. Hydraulic machines which contained fluids with PCB concentrations of $\leq$ 50 ppm could be shipped outside of the United States for final disposal/recycling.

As a practical matter, mechanical disassembly of the presses will be preferred, if possible (primarily to ensure a complete and thorough gross decontamination of the component parts and a complete draining of all hydraulic oils or fluids). However, if necessary, the use of torches or cutting equipment would also be allowed.

It may also be desirable to recycle scrap metals (if practical) which are currently mixed-in with several thousand cubic yards of other PCB contaminated debris in the vault area (rooms 2 and 3) at the Bossert Site. If it is feasible and practical to recover scrap metal from the general mix of debris, then these separated metals would require a gross decontamination process prior to being shipped off-site for remelt/recycling. Again, although not necessarily a regulatory requirement, a general goal or guideline for the decontamination would be a surface PCB contamination level of $\leq$ 100 ug/100 cm^2 following the gross decontamination process.

If my understanding of these issues is not correct, please let me know as soon as possible at tel. (518) 457-5677. Again, thank you for taking the time to discuss TSCA/PCB issues related to the Bossert Site remediation with me.

Sincerely,

Jim Reagan

Jim Reagan
Environmental Engineer 2
Central Superfund Projects
Bureau of Central Remedial Action
Div. of Hazardous Waste Remediation

cc: R. Griffiths - NYSDOH
J. Zegarelli - City of Utica
J. Banikowski - OB&G
K. Thomas - OB&G
J. Brady - SH
L. Petrone - Petrone & Petrone

BOS - 2.5001

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION II

DATE: NOV 0 6 1986

SUBJECT: Request for Rapid Authorization of SARA Removal Action Monies to Provide Site Security at the Bossert Manufacturing Facility, Utica, Oneida County, New York

FROM: Joseph D. Rotola, On-Scene Coordinator G.H. Zachos, for
Response and Prevention Branch

TO: James R. Marshall, Acting Director
Emergency and Remedial Response Division

THRU: Fred N. Rubel, Chief FR
Response and Prevention Branch

The Bossert Manufacturing Company was a large metal stamping, sheet metal welding and fabrication facility located in the heart of Utica, NY. The company filed for Chapter 11 on May 20, 1983 and on May 17,1986 amended their filing status to Chapter 7 bankruptcy. The facility is in a densely populated section of the city with a major grammar school less than two blocks away.

During preliminary site investigations by EPA, PCB contaminated oils were discovered in on-site sumps and drums. PCB concentrations encountered ranged from 10,810 ppm in the sumps to 117 ppm in drums. Subsequent sampling of interior surfaces for PCB residues revealed contamination throughout the production area of the facility. PCB's were found on floors, walls and machinery. The highest PCB concentration on surface materials was found on a piece of machinery about to be removed from the site by a salvage company. This piece of machinery contained 1180 micro grams of PCB's per square meter. Over 9,000 gallons of PCB waste oil is estimated to be on-site in 35 sumps, 21 transformers and 12 drums.

Other hazardous materials identified include nine open vats containing acid and other metal treating solutions, 140 drums, and deteriorating asbestos insulation. One vat contains 450 gallons of sulfuric acid with a pH of 0.2.

The 140 drums are located both inside and outside the building and contain raw materials, waste oils, solvents and unknowns. Approximately 20 carboys of nitric and hydrochloric acid are present. Asbestos, a proven carcinogen, has also been identified in pipe insulation, which was used extensively throughout the facility.

BOS - 2.5002

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION II

DATE: MAR 4 1987

SUBJECT: Preliminary Assessment and CERCLA/SARA Removal Funding Request for the Response to Hazardous Substances at the Bossert Manufacturing Corporation, Utica, Oneida County, New York - ACTION MEMORANDUM

FROM: Joseph D. Rotola, On-Scene Coordinator
Response and Prevention Branch

TO: Christopher J. Daggett
Regional Administrator

THRU: Stephen D. Luftig, Acting Director
Emergency and Remedial Response Division

I. EXECUTIVE SUMMARY

The Bossert Manufacturing Corporation was a large metal stamping, sheet metal weldment and fabrication facility located in the heart of Utica, New York. The company filed for Chapter 11 on May 20, 1983 and on May 17, 1986 amended their filing status to Chapter 7 Bankruptcy. The facility is in a densely populated section of the city with a large grammar school less than two blocks away.

After receiving a request for a CERCLA removal action from the New York State Department of Environmental Conservation (NYSDEC) in May 1986, representatives from both agencies met on site to discuss preliminary assessment activities as well as EPA's and NYSDEC's roles. Based on site conditions at the time of this visit, it was determined that the preliminary assessment should be completed in two phases. Under Phase I, routine background information would be collected and limited random sampling would be performed. If the results of sampling indicated that hazardous substances were present at concentrations that would threaten the public or the environment, then Phase II of the preliminary assessment would be initiated. Phase II would provide additional sampling which would define the extent of on- or off-site contamination and available technologies for on- and off-site treatment and disposal.

Phase I preliminary assessment activities took place during June and July, 1986, and included the sampling of 65 drums and sumps at the Bossert facility. Sampling was conducted by the Environmental Response Team (ERT) and the Technical Assistance Team (TAT) and laboratory services were provided by the Environmental Emergency Response Unit (EERU). Verbal results from the sampling were received on August 1, 1986. Results indicated that PCB contamination was widespread. In addition, during sampling, it was observed that large volumes of oil had been spilled throughout one area of the facility.

Based on Phase I preliminary assessment activities which not only identified PCB contaminated oils but also a wide range of other hazardous substances (i.e. solvents, acids, asbestos, and miscellaneous raw materials), on August 5 and 6, 1986, Phase II preliminary assessment activities were conducted by the EPA and TAT. Analytical services were provided by NANCO laboratories located in Poughkeepsie, New York.

In order to provide an accurate cost estimate for the removal, volume estimates of all waste streams were determined. Since one portion of the facility was grossly contaminated with oil (both on the ground and on equipment), wipe samples were taken to identify the extent of decontamination that would be necessary. Phase II preliminary assessment activities were completed on September 15, 1986.

During Phase I preliminary assessment activities, PCB contaminated oils were discovered in sumps and drums. PCB concentrations encountered ranged from 10,810 ppm in the sumps to 117 ppm in drums. Subsequent sampling of interior surfaces of PCB residues revealed contamination throughout the production area of the facility. PCB contamination was found on floors, walls and machinery. The highest PCB concentration on surface materials was found on a piece of machinery about to be removed from the site by a salvage company. This piece of machinery contained 1,180 micrograms of PCBs per meter squared. Over 9,000 gallons of PCB waste oil is estimated to be on-site in 35 sumps, 22 transformers and 12 drums.

Other hazardous materials identified included 9 open vats containing acid and other metal treating solutions, 140 drums and approximately 2,000 linear feet of deteriorating asbestos insulation. One of the 9 vats contain 450 gallons of sulfuric acid with a pH of 0.2. Approximately 15 carboys of nitric and hydrochloric acid are present as well.

The 140 drums are located both inside and outside the building and contain raw materials, waste oils, solvents and unknowns.

During the past several months, NYSDEC has been overseeing the removal of equipment which was auctioned by the bankruptcy trustees. Workers have been dismantling and shipping machinery to their respective owners. After PCB contamination was discovered, NYSDEC required sampling and decontamination of machinery prior to removal. Prior recipients have been notified that their machinery may be contaminated with PCBs. This incident has been referred to EPA's Office of Pesticides and Toxic Substances (OPTS) for possible legal action under the Toxic Substance Control Act (TSCA).

In June 1986, NYSDEC's Division of Construction Management hired a contractor to improve security at the site. Although site security was upgraded and the local police department has been providing frequent patrols of the area, site access has continued to be a problem.

NYSDEC has reported several cases of vandalism and there are numerous signs of site access such as spilled drums, cut fencing, and papers and debris scattered throughout the building. In addition, the Utica Fire Department has responded to four fires since the site's abandonment.

Most recently, on October 29, 1986, NYSDEC informed this office of an incident involving two teenagers that were exposed to chemicals while on-site. Apparently, several drums of raw materials were spilled and one carboy of nitric acid was broken. One of the teenagers complained of a rash caused by exposure to the acid. The other teenager complained of having difficulty breathing. Most recent reports indicate that both persons were brought to a local hospital, treated and released.

Due to limited spending authority along with the time required to obtain bids and select a security service, NYSDEC requested that EPA provide such security.

On November 17, 1986, 24-hour security services were initiated and an electrical contractor was hired to install night-time lighting. Funding for these services was made possible by authorization of the Director of the Emergency and Remedial Response Division on November 6, 1986.

In addition to providing site security, EPA and TAT have been overseeing the decontamination, dismantling and removal of purchased machinery. These activities took place between December 11, 1986 and January 8, 1987.

II. BACKGROUND

A. Site Setting/Description:

The Bossert Manufacturing Corporation is located at 1002 Oswego Street in Utica, New York. The facility is approximately two acres in size and consists of two story offices, three production areas and a warehouse. The facility is bounded to the east by a major highway and in the other directions by residential areas.

Being located in a densely populated residential area in the heart of the City of Utica, New York, the facility is readily accessible. A major concern is that of access by children living in the area and attending nearby schools. The Washington School is located one block from the facility and the Kernan School is less than five blocks away.

A map which identifies the location of the facility and the surrounding area is presented in Figure 1. A floor plan of the facility is presented in Figure 2.

B. Quantity and Types of Substances Present:

The Bossert Manufacturing facility contains a wide array of hazardous and toxic substances. Vats, sumps, carboys, transformers and drums of waste have been identified throughout the major production areas of the facility. In addition to these chemical wastes, the presence of asbestos insulation presents still another serious health threat. Past visits to the facility have indicated that vandalism is widespread. Drums of oil and raw material have been spilled onto the ground throughout the facility. During prior site investigations, approximately 35 sumps which served to collect metal shavings and oil and grease that may have leaked from operating machinery were identified. Presently 90% of the sumps contain large volumes of oil and water. Preliminary assessment activities included the sampling of four of these sumps and results concluded that their contents are contaminated with PCBs. The concentration of PCBs ranged from 148 ppm to 10,810 ppm. If all 35 sumps contain PCB contaminated oil, the anticipated volume of oil requiring removal and treatment will be approximately 4,312 gallons.

The widespread presence of oil throughout the facility was a major concern during preliminary assessment activities and resulted in further sampling and analysis. Since oil and grease could be identified in floors, walls and machinery, wipe samples were taken at fifteen of these locations. Of the fifteen samples collected, twelve exceeded the Office of Pesticides and Toxic Substances (OPTS) proposed standard for PCBs on interior surfaces which is 10 ug/m^2. The highest concentrations of PCBs found during EPA sampling was 1180 ug/m^2. This sample was taken from the surface of a piece of machinery which was staged for removal from the site.

The facility also contains 22 transformers which served as part of their private power generating operations.

The size of the transformers range from 4 to 10 feet in height. Previous sampling results supplied to us by NYSDEC indicate that they also contain PCB contaminated oil.

Nine open vats, which previously served as a metal treatment step during production, contain various wash and rinse baths. One vat contains 450 gallons of sulfuric acid with a pH of 0.2.

The presence of approximately 140 drums consisting of unknowns, PCB contaminated oils, acids, solvents and a wide range of raw materials used by this industry, is another potential hazard. In addition, approximately 15 carboys which carry nitric acid labels are also present.

Chrysotile asbestos has been identified in pipe insulation which was used extensively throughout the production area. Approximately 2,000 linear feet of asbestos is present.

A summary of the major hazardous substances encountered at the Bossert facility is presented below:

Compound	Maximum Concentration Found	Statuatory Source For Designation Under CERCLA	Media
PCB	10,810 ppm 117 ppm 1,180 ug/m^2 540 ug/m^2 20 ug/m^2	Clean Water Act, Sec. 311(b)(4) and Sec. 307(a)	Sumps Drums Machinery Floors Walls
Sulfuric Acid	pH = 0.2	Clean Water Act, Sec. 311(b)(4)	Vats
Asbestos	NA	Clean Air Act, Sec. 112 and Clean Water Act Sec. 307(a)	Insul-ation
Nitric Acid	pH = 1	Clean Water Act, Sec. 311(b)(4)	Carboys

A summary of the toxicological characteristics associated with exposure to these compounds is presented in Table 1. Specific toxicological information on the identified compounds can be found in Appendix 1. For a full inventory of the drums, transformers, sumps and vats see Appendix 2.

TABLE 1

TOXICOLOGICAL EFFECTS OF THE IDENTIFIED COMPOUNDS

1. Eye, Skin, Respiratory and Mucous Membrane Irritation
2. Liver Damage
3. Lung Damage
4. Highly Toxic Via Inhalation, Ingestion and Skin Absorption
5. Carcinogen

Compounds	1	2	3	4	5
PCB	X	X	X	X	X
Nitric Acid	X		X	X	
Sulfuric Acid	X		X	X	
Hydrochloric Acid	X		X	X	
Asbestos	X		X		X

III. THREAT

A. Potential Exposure to Hazardous Substances:

1) Threat of Public Exposure:

On October 29, 1986, at approximately 4:45 P.M., three teenagers entered the Bossert facility and were exposed to hazardous substances on site. Based on information obtained by EPA, the teenagers experienced respiratory problems and one was burned by what was believed to be nitric acid. Two of the teenagers were treated at the Faxson Memorial Hospital and released.

Since the facility was abandoned during the Summer of 1985, numerous reports and actual evidence of site entry have been documented. Offices and production areas have been ransacked, files of documents have been scattered throughout the building, windows have been broken, drums of chemicals and oils have been emptied onto the ground and in one instance, trespassers have used their hands to write their names on windows with contaminated oils. Most recently, site entry was gained by cutting holes in the fence. It is assumed that the injuries described above occurred at this time. Supporting evidence includes spilled carboys of nitric acid, one carboy that was thrown on the ground and shattered and several drums of raw materials that were also spilled onto the ground.

In addition to actual instances of direct contact with hazardous substances on site, sample results indicate that concentrations of PCBs observed exceed federal guidelines. The OPTS proposed standard for interior surfaces in a restricted access building is 10 ug/m^2. Twelve of the fifteen samples collected from walls, floors and machinery exceeded this guideline. The highest PCB concentration encountered was 1,180 ug/m^2.

The 35 sumps identified, present another serious problem since they are at floor level. The sumps range from 1 to 11-1/2 feet deep and contain up to six feet of oil. Due to the absence of lighting in the building, the open sumps are a physical hazard. There is also the potential for a person falling into a sump to suffer dermal toxicity from PCBs and petroleum hydrocarbons.

The presence of approximately 140 drums of acids, PCB contaminated oils, solvents and various raw materials not only pose a direct contact problem but may pose a compatibility problem that may result in a fire or release of toxic gases. The threat associated with the occurrence of a fire has been a major concern due to the densely populated area in which the facility is located. The presence of PCBs, PCB contaminated material and the many drums of hazardous substances could result in the release of pollutants and unknown combustion products. Water runoff from fire fighting would also spread contamination off-site and into surface waters.

Four minor fires have occurred at the site since December 1985, but were quickly brought under control. Their occurrence was substantiated by Mr. Peter Irving, Chief of the Utica Fire Department.

B. Evidence of Extent of Release

Results of sampling conducted during preliminary assessment activities revealed varying levels of PCB contamination on surfaces inside the building. Twelve of the fifteen samples exceeded the OPTS guideline for PCB contamination in a restricted access facility.

The highest PCB concentration, 1,180 ug/m^2, was collected from a piece of machinery in the facility's yard. The machinery was to be shipped without any type of decontamination. Similar machinery has already been shipped off site.

An inspection/inventory of the drums on site revealed leaking and bulging drums. Many of the drums are very old, dented and are missing bungs and lids.

A summary of known releases include:

1. Actual leaking drums

2. PCB-contaminated interior surfaces

3. On-site fires

4. Removal and off-site shipment of PCB-contaminated machinery

Figure 3 illustrates the major areas of contamination resulting from spilled materials and leaking drums.

C. Previous Actions to Abate Threat

On August 6, 1986, EPA requested that workers at the site cease their dismantling activities. EPA also requested that no machinery leave the site without being properly decontaminated.

The Utica Police Department has increased patrols in the area for security, however, vandalism and site access has continued to be a problem.

On November 6, 1986, the Director of EPA's Emergency and Remedial Response Division authorized pre-Action Memo funding, necessary to provide 24-hour security. An electrician was also hired to install power and night-time lighting. These activities were requested by NYSDEC.

D. Current Action to Abate Threat

With the exception of the EPA action recommended and already underway, no current mitigative effort is known to be underway at this time.

IV. ENFORCEMENT:

Bankruptcy proceedings against Bossert began in 1983 and liquidation occurred prior to EPA involvement. As a result of Chapter 7 (liquidation) bankruptcy proceedings, Bossert Manufacturing Corporation no longer legally exists. Bossert's bankruptcy estate does not contain any further assets other than the plant property itself, and any machines and equipment that have not yet been sold. Numerous machines on the site were sold to raise money in the bankruptcy, or became the property of creditors. EPA's S&C Branch is exploring the possibility that crews dismantling the machines did so improperly and spread PCB contaminated oils throughout the site. Notice Letters will be sent out as further PRPs are identified.

V. PROPOSED PROJECT AND COST:

A. Objective of the Project

The primary objective of the proposed action is to eliminate the existing threat to public safety imposed by the hazardous substances located at the Bossert Manufacturing site. In order to accomplish these objectives, the following activities are anticipated. Waste in drums will be sampled for compatibility and based on the results will be bulked and shipped off-site. All readily identifiable contaminated surfaces and debris located in and around sumps will be properly disposed or decontaminated.

PCB contaminated oily waste from sumps and drums will be pumped into an oil/water separator. From the separator the oil will be pumped to a holding tank until off-site incineration can be scheduled. The volume of oil that will be generated from the sumps is estimated to be 4,315 gallons.

Once the oil phase of the waste stream is separated, the aqueous phase will be pumped to a holding tank after undergoing carbon treatment preceeded by a sand filter. It will be stored at this location while analysis is being performed. If data indicates that adequate treatment has been provided, it will be safely discharged to the local sewer system.

Following the removal of the liquid waste from the sumps, the remaining material such as sludges and debris will be segregated. The large solid material, such as wooden boards, equipment parts and other debris will be drained of oil and stored at the site prior to landfilling in a TSCA approved landfill. Sludges and solid waste which may have a high heavy metal content will be sampled to determine disposal options. If this waste stream is amenable to incineration, it will be repacked into the proper size charges and shipped to an EPA-approved facility. If the waste stream is not amenable to incineration, it will be solidified and landfilled. The interior of the sumps will be decontaminated and the wash solutions properly disposed. After the decontamination, the sumps will be covered and secured to eliminate potential physical hazards.

The contents of the vats will be sampled and pumped into drums, and disposed of following receipt of analytical data. The vats will also be covered and secured.

The 22 transformers along with the PCB-contaminated transformer oil will be shipped to an authorized treatment/ disposal facility.

Since the majority of the 140 drums contain no markings or labels, it will be necessary to sample them prior to disposal.

However, in cases where the drums can be identified, attempts will be made to return the drums to the respective manufacturers. The reuse of viable raw material will also be considered.

The final phase of the project will include the removal of pipe insulation containing asbestos. Vacuums and plastic glove bags will be utilized in order to prevent asbestos dispersal outside the enclosed work environment. The quantity of asbestos insulation to be removed is estimated to be approximately 2,000 feet.

B. Project Estimated Costs

The estimated costs for the three phases of cleanup and the disposal of the hazardous waste at the site are as follows:

1.	Mobilization/Demobilization		$ 25,000
2.	Sampling and analyses		110,000
3.	Removal of liquid waste from sumps		24,500
4.	Removal of contents from vats		32,000
5.	Removal of solids/sludges from sumps, decontamination, covering and securing of sumps and vats		54,000
6.	Excavation and removal of contaminated debris		20,000
7.	Disposal costs		
	a.	PCB Oil from sumps	$ 20,000
	b.	Aqeuous liquid from sumps	39,500
	c.	Solids/sludges from sumps	15,000
	d.	Corrosives from vats	5,000
	e.	Wash solution from decontamination of sumps and vats	16,000
	f.	Transformer oil	40,000
	g.	140 drums on site	42,000

	h. Contaminated soil	9,000
	i. Asbestos insulation	12,000
8.	Protective Equipment	15,800
	SUBTOTAL	$ 479,800
	Contingency - 20%	95,960
	SUBTOTAL (Contract Mitigation costs)	$ 575,760
	Intramural EPA Costs	36,800
	Extramural TAT Costs	100,200
	SUBTOTAL	$ 712,760
	Other Costs (15% of all above costs)	106,914
	Previously Approved Funds (For Site Security)	35,000
	Total Estimated Costs	$ 854,674
	Rounded Estimated Costs	$ 855,000

C. Project Schedule

Cleanup activities will begin immediately after Action Memorandum approval is obtained. It is anticipated that the entire cleanup will require 19 weeks to complete.

The proposed action has been divided into three phases. The following is a general work plan that identifies the various cleanup activities and the respective time requirements.

Phase I

Weeks 1-4	Mobilization onto site Sampling of vats, transformers and drums Provide general housekeeping activities Removal of trash and debris from sumps Set up carbon treatment system
Weeks 5-7	Pumping of aqueous phase from sumps into carbon treatment system or bulk containers Sampling of the aqueous phase prior to discharge to the municipal sewer system Removal and disposal of PCB oil and aqueous phase from sumps

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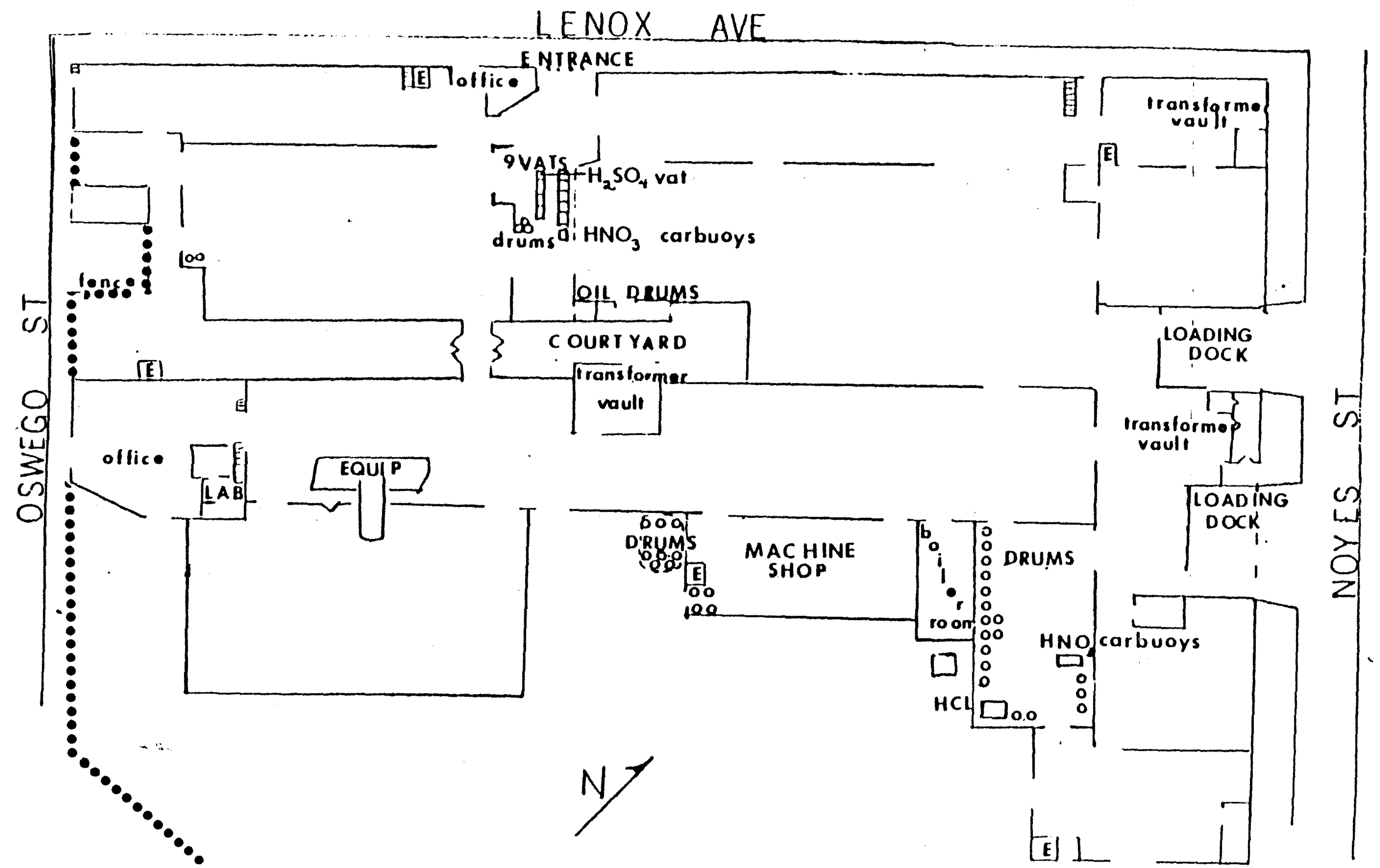


WESTON SPILL PREVENTION & EMERGENCY RESPONSE DIVISION	EPA PM ROTOLA	FIGURE 2
In association with ICF, Inc., Jacobs Engineering, Inc., & Tetra Tech, Inc.	TAT PM MARESCA	FLOOR PLAN BOSSERT MFG.

BOS - 2.5016

Weeks 8-10 — Pumping of vats' contents into drums
Removal of solid waste from sumps
1. Sludges - solidify, neutralize and place in drums
2. Large waste - decontaminate and store in rolloffs
Continued removal of drums
Continued pumping and carbon treatment of aqueous phase

Weeks 11-15 — Removal and disposal of transformers oil
Decontamination of sumps and vats
Removal of decon solutions
Cover and secure all sumps and vats

Phase II

Weeks 16-17 — Excavation and removal of contaminated soil
Removal of remaining drums and liquid waste

Phase III

Weeks 18-19 — Removal of asbestos insulation
Demobilization

Conditions at the Bossert Manufacturing facility meet the criteria for a removal action under the NCP Section 300.65(b)(1). Qualifying criteria include the following:

A. The site presents a threat of exposure to hazardous substances by nearby populations.

B. The site contains hazardous substances contained in drums, vats, transformers, sumps and carboys.

C. High levels of contaminants are in and at the surface of soil and floors of the facility and can migrate.

D. Weather conditions may cause hazardous substances to migrate.

E. A high threat of fire exists.

F. No other state or Federal response mechanism is available to mitigate this problem in a timely manner.

Based on these conditions, I recommend your approval of the proposed removal action described above to remove the hazardous materials on-site and eliminate the risk to the surrounding residents.

The estimated cost of this project is $855,000 of which $610,760 is for mitigation contracting. This total includes the $35,000 approved by the Director of the Emergency and Remedial Response Division for the procurement of security and electrical services.

Your authority to authorize these funds is pursuant to Deputy Administrator Alvin Alm's April 16, 1984 memorandum Delegation Number 14-1-A.

Approval: Christopher J. Daggett Date: March 10, 1987

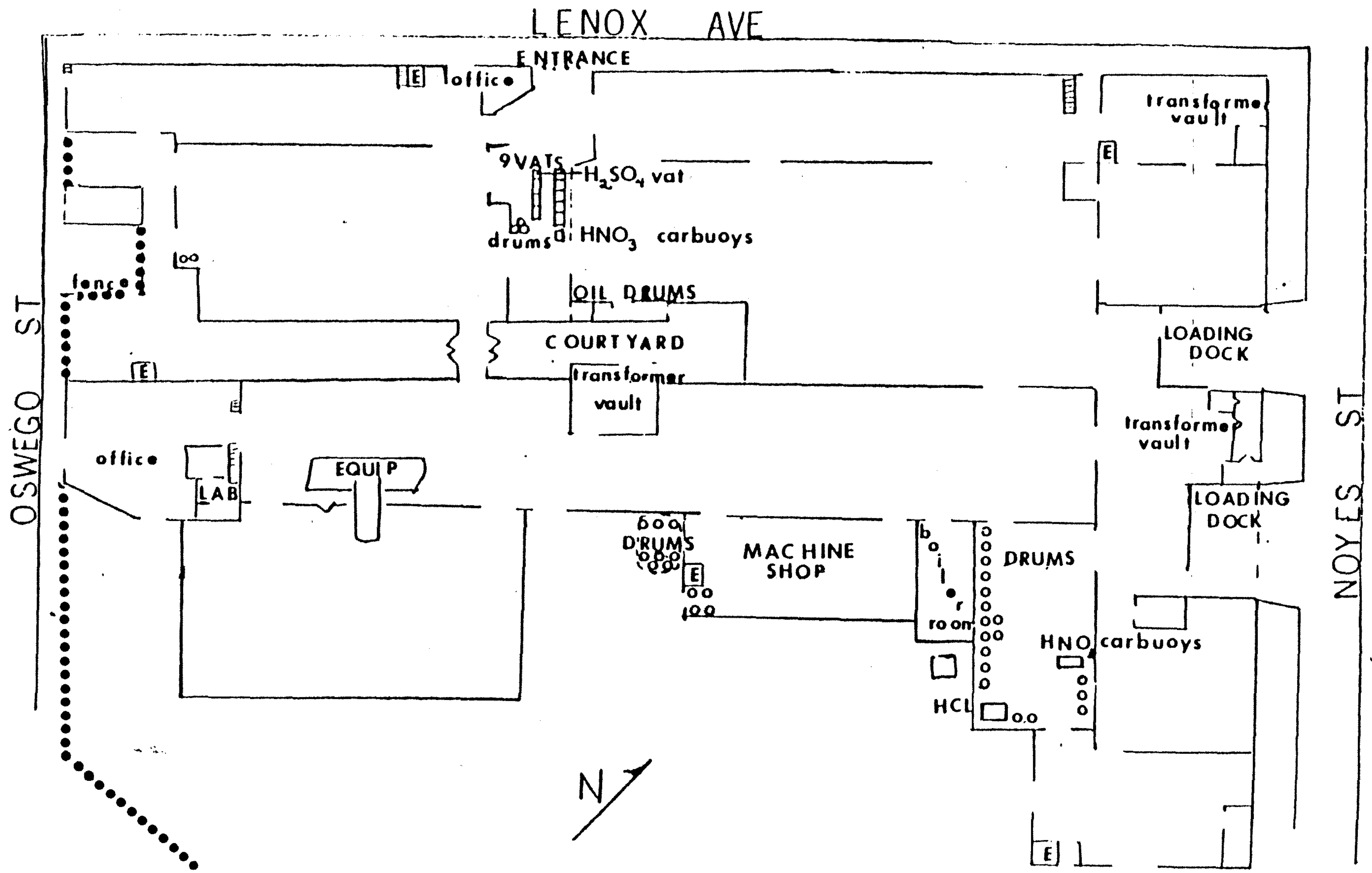
Disapproval:________________ Date:____________

cc: (after approval is obtained)

C. Daggett, 2RA
S. Luftig, 2ERR
F. Rubel, 2ERR-RP
G. Zachos, 2ERR-RP
B. Sprague, 2ERR-RP
J. Czapor, 2ERR-SC
G. Pavlou, 2ERR-NYCRA
J. Marshall, 2OEP
B. Adler, 2ORC-ARC
R. Gherardi, 2OPM-FIN
P. Flynn, PM-214F (EXPRESS MAIL)
T. Fields, WH-548B
H. Longest, WH54B
N. Nosenchuck, NYSDEC
P. McKechnie, 2IG

bcc: C. Moyik, 2ERR-PS

BOSSERT MFG.



WESTON — SPILL PREVENTION & EMERGENCY RESPONSE DIVISION	EPA PM: ROTOLA	FIGURE 2
In association with ICF, Inc., Jacobs Engineering, Inc., & Tetra Tech, Inc.	TAT PM: MARESCA	FLOOR PLAN BOSSERT MFG.

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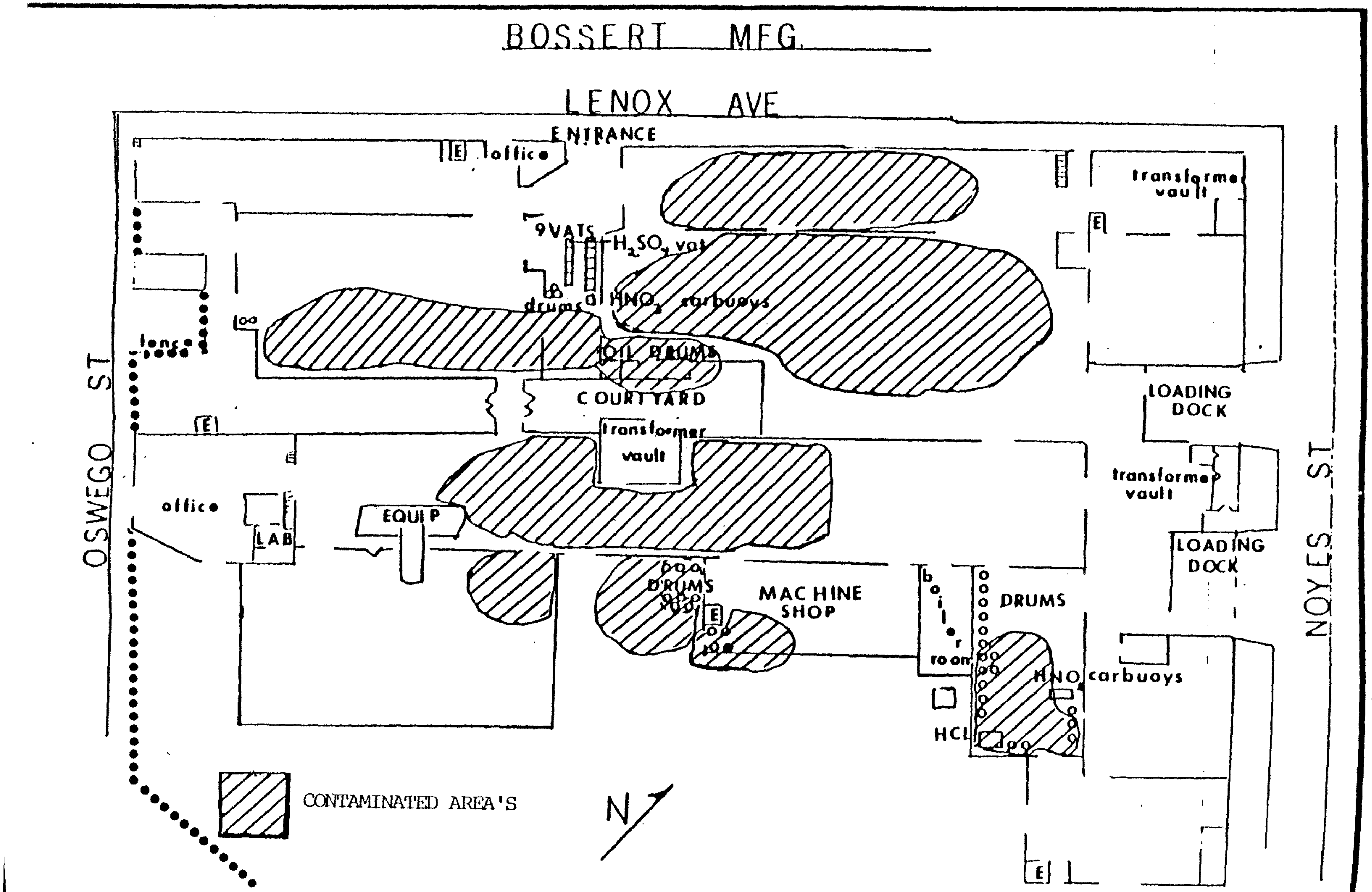

WESTON SPILL PREVENTION & EMERGENCY RESPONSE DIVISION	EPA PM ROTOLA	FIGURE 3
In association with ICF, Inc., Jacobs Engineering, Inc., & Tetra Tech, Inc	TAT PM MARESCA	CONTAMINATED AREAS BOSSERT MFG.

APPENDIX 1

HEALTH HAZARD DATA

PCB	PCBs are strong chronic irritants and are readily absorbed through the skin. They can lead to liver and skin disorders as well as reproductive abnormalities. It has been classified a probable human carcinogen. Typical contaminants in PCBs are some of the most toxic materials known. PCBs are highly toxic when inhaled or ingested, and chronically toxic via inhalation or skin absorption.
Sulfuric Acid Nitric Acid Hydrochloric Acid	Acids are corrosive to all body tissues. Inhalation of vapors may cause irritation to mucous membranes and serious lung damage. Direct contact with eyes may result in a total loss of vision. Skin contact may produce severe irritation with possible necrosis. Ingestion of even a few drops is harmful to the digestive tract, and aspiration can be damaging to the respiratory system.
Asbestos	The chronic inhalation of asbestos dust is dangerous and exposure should be avoided. Acute health effects from the inhalation of high concentrations over a short time period are of little consequence except for temporary breathing difficulties. Long continued exposures through inhalation results in asbestosis and mesothelioma, lung disorders related solely to asbestos fibers. An increased incidence of lung cancer has also been reported. Ingestion of asbestos fibers may lead to gastrointestinal cancer. Microscopic fibers may penetrate the gastrointestinal tract and move through the bloodstream to other vital organs. Increased incidences of renal*, liver, uterine and colon cancers have been reported from ingestion of asbestos. * Kidneys or the surrounding regions.

Source: Oil and Hazardous Materials Technical Assistance Data System (OHMTADS)

The following is a detailed inventory of the hazardous materials at the Bossert Manufacturing facility. The materials have been separated into the following categories:

I. Drums
II. Sumps and Transformers
III. Vats
IV. Asbestos

I. Drums

Quantity	Volume	Compound
2	55 gallon - full	Metpar 352
15	15 gallon	Nitric Acid
2	5 gallon pail and box - full	Vinyl steel concrete and liquid vinyl mix
1	5 gallon - full	Eruko D554
1	55 gallon - full	Derust
1	55 gallon - 1/2 full	Harmony 69 oil
1	55 gallon - 2/3 full	CCC grease stick
1	55 gallon - 1/2 full	Quaker Draw 42 oil
1	55 gallon - full	Gilcote 1896
1	55 gallon - full	Atcivol 1803
8	15 gallon - full	Muriatic acid
6	5 - 55 gallon - full 1 - 55 gallon - 1/4 full	Tenafilm oil
3	2 - 55 gallon - full 1 - 55 gallon - 1/4 full	International Chem. Comp. 126-B
1	55 gallon - 1/4 full	5802 compressor oil
1	55 gallon - full	D-591 oil
1	55 gallon - 1/2 full	Boiler clean

APPENDIX 2

I. Drums (Continued)

Quantity	Volume	Compound
2	55 - gallon full	Nutmeg Chem. Compound 70 - 24
3	1 - 15 gallon - full 2 - empty	Tool life 309
1	15 gallon - full	Chloroil 6
1	5 gallon - 1/2 full	John Draw 700
1	15 gallon - 1/2 full	Oakite 360 L
2	2 gallon - full	Dymereic
2	1 - 55 gallon - 1/3 full 1 - empty	Corfilm 6
1	55 gallon - full	Alkaway
1	55 gallon - 1/4 full	Hydrolubric 120-B
1	55 gallon - 1/4 full	Gulf endurance 19 oil
1	55 gallon - full	Soluble oil 201
8	5 - 55 gallon - full 1 - 55 gallon - 1/4 full 1 - 5 gallon - full 1 - empty	Unknowns
1	55 gallon - full	Oakite NRP
1	55 gallon - full	Bonderite corrosive 18LX
8	1 - 55 gallon - full 7 - empty	Gulf oil
1	Empty	Petroleum naptha
1	Empty	Halcomb X-75

The 82 drums listed above are located in several storage areas inside the building. An additional 60 drums are scattered throughout the facility property outside the building. Approximately 40 of these drums are unknowns. The drums that could be identified have been listed below:

1,1,1 Trichloroethane
Metpar compound 352
Vinyl concrete mix
Corfilm Q0028
Endurance 19 oil
Gulf Harmony 69 oil
Activol
Muriatic acid
Soluble oil 281
Nutmeg compound 7D24
Oakite corrosive 1760
Tool life 302
Nitric acid
Petroluem naptha
International compound 126-B
Alkaway
Hydrolubric 120B
Bonderite 18LX
Drawing compounds
Toluene ink remover
Grinding cone 1500

II. Sumps and Transformers

There are 35 sumps and 22 transformers located throughout the building. The dimensions of the seven largest sumps were determined and their liquid levels measured. Dimensions and liquid levels for the other 28 sumps could not be measured and have been approximated in order to calculate total volumes.

Sump	Total Liquid Volume(gal)	Oil Phase Volume(gal)	Aqueous Phase Volume(gal)
1	4865	1870	2995
2	900	20	880
3	200	95	110
4	4675	1335	3340
5	470	10	460
6	1615	35	1580
7	180	10	170
8-35	16,975	945	16,020
Total	29,870	4,315	25,555

The 22 transformers ranged in height from 4 feet to 10 feet. Since the actual volume of oil in each transformer cannot be determined without removing the oil, oil capacity of the transformers was based on the size of the transformer.

Transformer(s)	Height(Ft)	Oil Volume(gal)
1-3	4	200
4-6	6	300
7-10	10	3,600
11-16	8	900
17-22	5	600
Total: 22		5,600

III. Vats

Vat	Compound	Approximate Volume (gal)
1	Sulfuric acid	450
2-9	Unknown*	4,550*
Total: 9		5,000

*Sampling will be conducted to determine the compounds and actual volumes in the vats.

IV. Asbestos

The quantity of insulation to be removed and landfilled has been approximated in order to determine removal and disposal costs. Based on the size of the building, it is estimated that 2,000 linear feet of asbestos insulation may be present.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY BOS - 2.5025

REGION II

DATE: JUL 13 1987

SUBJECT: Request for a Ceiling Increase for Removal Activities at the Bossert Manufacturing Facility, City of Utica, Oneida County, New York - ACTION MEMORANDUM

FROM: Joseph D. Rotola, OSC J. Rotola
Response and Prevention Branch

TO: Christopher J. Daggett
Regional Administrator

THRU: Stephen D. Luftig, Acting Director S. Luftig
Emergency and Remedial Response Division

ISSUE

An increase in the CERCLA removal action funding is necessary to continue on-going removal activities at the Bossert Manufacturing facility located in Utica, New York. EPA's Emergency Response Cleanup Services (ERCS) Contractor has been fully mobilized and has been engaged in cleanup activities since May 7, 1987.

The results of extensive sampling have indicated that PCB oil contamination is more widespread than originally anticipated. In addition, it has been discovered that the majority of the 54 sumps (below grade pits used to house machines) contain not only PCB contaminated oil but also vast quantities of contaminated debris and metal stampings and shavings. Asbestos insulation is contaminated with PCBs and some areas of the building are contaminated with mercury. The discovery of these additional waste streams have substantially increased the costs necessary to complete this removal action. The monies requested in this memorandum are intended to fund removal actions necessary to continue the decontamination of the floors and walls within the building as well as stabilize the site by consolidating, securing, and disposing of all waste.

Presently, specifications are being prepared for the removal of non-PCB contaminated asbestos insulation. Monies necessary for this portion of the removal action will be requested at a later date.

To date, the total authorized ceiling for this project is \$854,674 of which \$717,674 is for mitigation contracting. In order to complete this removal action, it is estimated that an additional \$507,600 will be required. This increase will result in a new project ceiling of \$1,362,274.

REGION II FORM 1320-1 (9/85)

BACKGROUND

The Bossert Manufacturing Facility was a sheet metal stamping, weldment and fabrication facility which operated from the turn of the century until bankruptcy in 1985. The facility is located in downtown Utica, New York, and occupies an area of approximately six acres. The facility utilized large hydraulic and mechanical presses and included a small metal treating facility.

Items of concern include: twenty-two transformers (seven of which contain PCB contaminated oils), fifty-four sumps which housed machinery and contain PCB contaminated oil and vast quantities of debris, one boiler room, one furnace room, a small metal treatment facility containing nine vats of metal treating solutions and acid, asbestos insulation, isolated mercury contamination, one twenty thousand gallon underground tank containing either sludge or contaminated number six fuel oil, a small quantity of laboratory chemicals, approximately one-hundred and sixty drums of unknown waste and raw materials, PCB contaminated concrete and wood block floors, twenty-two PCB contaminated machines and PCB contaminated asbestos.

Recent sampling results indicate that PCBs are present in the boiler and furnace rooms which suggests that this facility used PCB oils as a fuel source which in turn, presents a potential dioxin contamination problem.

RESPONSE HISTORY

EPA, the Technical Assistance Team and O.H. Materials have been on-site since May 7, 1987. To date, removal activities have consisted of the following:

- draining of non-PCB transformers
- draining flushing and removal of PCB transformers
- installation of 50k and 12k gallon portable pools for on-site treatment and storage of bulk oils and waste water
- pumping and consolidation of oils from sumps
- pumping and consolidation of contaminated water
- removal and consolidation of debris in sumps
- consolidation of debris throughout the site
- segregation and consolidation of drums containing PCB oils and non-PCB oils
- consolidation of all drums
- segregation and securing laboratory chemicals
- initiation of the scraping of floors
- initiation of the removal of contaminated wood floors
- surveying and preparing specs for the removal of asbestos and PCB contaminated asbestos
- removal of mercury and mercury contaminated instruments, piping and sludge like debris from the boiler room

- seal building with visqueen prior to decontaminating the interior floors and walls with high pressure water lazer
- improving the structural integrity of areas of the building that was disturbed during prior removal of equipment by others

SUMMARY OF COSTS

A summary of actual expenditures to date, removal monies previously authorized and additional monies requested to complete this phase of the removal are presented below. A detailed cost estimate of additional monies requested is included in Attachment I.

	MONIES AUTHORIZED	ACTUAL EXPENDITURES	ADDITIONAL MONIES REQUESTED	TOTAL
Mitigation Contracting Costs	$717,674	$577,800	$475,200	$1,192,874
TAT Costs	100,200	61,000	24,000	124,200
EPA Costs	36,800	27,500	8,400	45,200
TOTALS	$854,674	$666,300	$507,600	$1,362,274

RECOMMENDATION

The increase in funding requested in this action memorandum will ensure that removal actions at the Bossert Facility can be completed and thereby eliminate the threat posed by the numerous waste streams present on-site, with exception of the non-PCB contaminated asbestos. In addition, without this funding this removal action would require a temporary shutdown period until monies are secured. This, in turn would result in substantial demobilization and re-mobilization costs.

I therefore, recommend your approval of this ceiling increase of $507,600. Your approval would raise the total project ceiling for the site from $854,674 to $1,362,274 of which, $1,192,874 is for mitigation contracting. You may indicate your approval or disapproval by signing below.

BOS - 2.5028

Your authority to authorize these funds is pursuant to Lee Thomas's February 26, 1987 Interim Delegation 14-1-A.

Approval [signature] DATE July 15, 1987

Disapproval ______________________ DATE __________

Attachment

cc: S. Luftig, 2ERR
F. Rubel, 2ERR-RP
B. Sprague, 2ERR-RP
G. Zachos, 2ERR-RP
J. Czapor, 2ERR-SC
J. Marshall, OEP
B. Adler, 2ORC-ARC
R. Gherardi, 2OPM-FIN
R. Mueller, PM-214F (EXPRESS MAIL)
T. Fields, WH-548B
N. Nosenchuck, NYSDEC

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION II

BOS - 2.5029

DATE: AUG 12 1987

SUBJECT: Request for a Ceiling Increase for Removal Activities at the Bossert Manufacturing Facility, City of Utica, Oneida County, New York - ACTION MEMORANDUM

FROM: Joseph D. Rotola, OSC
Response and Prevention Branch

John [illegible] for

TO: Christopher J. Daggett
Regional Administrator

THRU: Stephen D. Luftig, Director
Emergency and Remedial Response Division

Steph D. Luftig

ISSUE

On July 15, 1987, the project ceiling for this site was raised to $1,362,274. These monies were authorized to continue on-going removal activities at the site. The estimates, for materials in the July 15 authorization, were based on generalized footages of materials and volumes of visible materials.

At present, after a month of intensive efforts to uncover and identify contaminated materials and decontamination needs, estimates indicate the volume of material which has to be completely removed, bulked, staged and secured for disposal will be approximately 3500 cubic yards. This compares with 150 cubic yards originally expected. Based on present on site operations of $15,000 per day and the accomplishment rate of operations for a day, therefore, at least 25 more days of effort are required to secure the site (includes decontamination and disposal of some materials- see attachment 1).

Therefore, this memorandum requests an additional $628,985 of CERCLA funds to continue this phase of removal activities at the Bossert Manufacturing Facility in Utica, New York. The new project ceiling for this removal action requested is $1,991,259 of which $1,775,609 is estimated for mitigation contracting. These additional funds will be used to complete extracting PCB contaminated debris, metal shavings and stampings from pits, sumps, and trenches; bulking and staging these materials in one dry central room within the buildings and providing security for six months.

Our intention at this time, is to decontaminate this facility to a point that upon completion of action, an immediate threat would not exist to persons on chance coming in contact with materials and surfaces at the facility.

Presently, specifications are being prepared for the removal of non-PCB contaminated asbestos insulation. Monies necessary for this portion of the removal action will be requested at a later date.

These estimates do not include monies needed for transporting or disposal of this tremendous volume of PCB contaminated materials ($2.6 million); nor does it include monies for non-PCB contaminated asbestos insulation removal ($0.2 million); nor removal of materials from the boiler room and furnace (waiting for dioxin sampling and analyses to be finalized - $0.2 million non dioxin contaminated - unknown if dioxin contaminated). Since these latter three operations will exceed $2 million dollars alone, preparation of a request to exceed the $2 million limit are being initiated immediately.

A 12 month time limit exemption is also being prepared.

BACKGROUND

The Bossert Manufacturing Facility was a sheet metal stamping, weldment and fabrication facility which operated from the turn of the century until bankruptcy in 1985. The facility is located in downtown Utica, New York, and occupies an area of approximately six acres. The facility utilized large hydraulic and mechanical presses and included a small metal treating facility.

Items of concern include: fifty-four sumps which housed machinery and contain PCB contaminated oil and vast quantities of debris, one boiler room, one furnace room, a small metal treatment facility containing nine vats of metal treating solutions and acid, asbestos insulation, isolated mercury contamination, one twenty thousand gallon underground tank containing either sludge or contaminated number six fuel oil, a small quantity of laboratory chemicals, approximately one-hundred and sixty drums of unknown waste and raw materials, PCB contaminated concrete and wood block floors, twenty-two PCB contaminated machines and PCB contaminated asbestos.

On site operations have addressed removing, securing or decontaminating many of these items. Procedures for decontamination (high pressure water lasering) have been delayed as a result of a need to temporarily secure loose asbestos insulation. Approvals for standards of removal of PCB contaminated flooring, metals, containers and assorted trash which were spread throughout the site have resulted in our accummulating (PCB) contaminated materials which added over 3000 cubic yards to the waste pile. Also removal of the last 30 cubic yards of of scrap from 22 of the sumps have proved to be particulary exasperating. These have to be done in level B(fully protected body surfaces with supplied air) with a pick, shovel and bucket. This action has become highly labor intensive.

Samples have been collected from the furnace and boiler room which will be analyzed for dioxins.

Other activities already undertaken are summarized below:

- addressing transformers
- addressing oils
- removal of mercury
- setting up and treating contaminated water
- consolidation and staging drums, vats and other containers other than PCB materials and their contents
- initiating decontamination of site surfaces
- secure site
- removal of combustible trash
- physical set up of operations

SUMMARY OF COSTS

A summary of actual expenditures to date, removal monies previously authorized and additional monies requested to complete this phase of the removal are presented below. A detailed cost estimate of additional monies requested is included in Attachment I.

	PREVIOUSLY AUTHORIZED	ESTIMATED EXPENDITURES	ADDITIONAL MONIES REQUESTED	TOTAL
Mitigation Contracting Costs	$1,192,874	$1,100,000	$582,735	$1,775,609
TAT Costs	124,200	123,000	37,500	161,700
EPA Costs	45,200	39,500	8,750	53,950
TOTALS	$1,362,274	$1,262,500	$628,985	$1,991,259

RECOMMENDATION

The increase in funding requested in this action memorandum will ensure that removal actions at the Bossert Facility can be continued and thereby will further address the threat posed by the numerous waste streams present on-site. This action is consistent with long term actions required for efficient remediation of this threat. Without this funding this removal action would require a temporary shutdown period until monies are secured. This, in turn would result in substantial demobilization and re-mobilization costs.

I, therefore recommend your approval of this ceiling increase of $628,985. Your approval would raise the total project ceiling for the site from $1,362,274 to $1,991,259 of which, $1,775,609 is for mitigation contracting. Please indicate your approval or disapproval by signing below.

Your authority to authorize these funds is pursuant to Lee Thomas's February 26, 1987 Interim Delegation 14-1-A.

Approval ______________________ DATE August 12, 1987

Disapproval ______________________ DATE ______________

Attachments

cc: (after approval is obtained)

S. Luftig, 2ERR
R. Salkie, 2ERR-DD
F. Rubel, 2ERR-RP
B. Sprague, 2ERR-RP
G. Zachos, 2ERR-RP
J. Czapor, 2ERR-SC
J. Marshall, OEP
B. Adler, 2ORC-ARC
R. Gherardi, 2OPM-FIN
R. Mueller PM-214F (EXPRESS MAIL)
T. Fields, WH-514B
N. Nosenchuck, NYSDEC

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

BOS - 2.5033

JAN 12 1988

Authorization to Exceed the Twelve Month Time Limit on a CERCLA Removal Action - Bossert Manufacturing Facility, City of Utica, Oneida County, New York - ACTION MEMORANDUM

Jack D. Harmon, On-Scene Coordinator
Response and Prevention Branch

Christopher J. Daggett
Regional Administrator

RU: Stephen D. Luftig, Director
Emergency and Remedial Response Division

ISSUE

Continued response actions of a duration greater than twelve months cannot be undertaken unless an exemption to Section 104(c)(1) of the Comprehensive Environmental Response Compensation, and Liability Act of 1980 (CERCLA) as amended by the Superfund Amendments and Reauthorization Act (SARA) of 1986, is granted. Removal activities were initiated at the Bossert Manufacturing facility on November 8, 1986, and the one-year time frame for removal actions under CERCLA/SARA will expire November 8, 1987. Circumstances (discussion to follow) have arisen which will prevent the removal action from being completed within the twelve month time frame authorized by CERCLA/SARA.

Accordingly, an exemption from the twelve month limit is necessary to complete the removal activities at this site, and is hereby requested.

STATUTORY CRITERIA

Section 104(c)(1) of CERCLA limits Federal removal actions to twelve months in duration unless three criteria are met. The manner in which this removal action meets the criteria for an exemption to the twelve month time limit is as follows:

(1) Continued response actions are immediately required to prevent, limit or mitigate an emergency.

In excess of 3,500 cubic yards of PCB contaminated debris, mercury, and PCB contaminated asbestos are stored on-site. PCB's are present at concentrations as high as 10,000 ppm. The facility is abandoned.

The site has a history of break-ins and vandalism even after the guard service was initiated.

Although the debris is within a secured area, this material constitutes an acute hazard to the surrounding population. In the event of a fire, responding firefighters would be exposed to hazardous substances and nearby residents would be threatened with exposure to hazardous substances. Continued removal actions are required to prevent an emergency from occurring.

It is estimated that eight to twelve weeks following the authorization of adequate funding are needed to transport and dispose of the PCB contaminated debris and mercury and PCB contaminated asbestos.

(2) <u>There is an immediate risk to the public health, welfare, or the environment.</u>

The site was secured by repairing an existing chain link fence, posting hazardous waste warning signs, posting a 24 hour guard and providing lighting. This facility is in a "transition zone" neighborhood. There are industrial establishments; however, the neighborhood is primarily residential with two grade schools and a junior high school within several blocks.

Many fires have occurred at the facility and even though the site is fenced with a guard, vandals have cut the fence and entered the site. The six acres of buildings with multiple rooms make site security extremely difficult. A fire could impact nearby residents, and close a major thoroughfare.

The presence of friable asbestos further complicates this dangerous scenario.

(3) <u>Such assistance will not otherwise be provided on a timely basis.</u>

No other level of government, nor any Primary Responsible Party, has agreed to provide for the removal of the on-site hazardous materials on a timely basis to mitigate the threat posed by this hazardous site. This is not a National Priority List site, and thus further action by EPA through a CERCLA remedial action will not occur in a timely fashion.

DISCUSSION

Decisions concerning the selection of a methodology for decontaminating the building's interior and addressing the associated debris was obtained from cleanup standards established by EPA's Office of Pesticides and Toxic Substances (OPTS). As a consequence of attaining these standards, the volume of debris which had to be considered contaminated increased enormously. Upon completion of consolidating and stockpiling the debris from throughout the site, over 3,500 cubic yards of material was accumulated.

To date, on-site operations have addressed removing, securing or decontaminating many of these items. Decontamination procedures utilizing high pressure water lasering have been employed. The removal of PCB contaminated flooring, metals, containers and assorted trash, which were spread throughout the site, have resulted in our accumulating (PCB) contaminated materials which added over 3,000 cubic yards to the waste pile. Also, removal of the last 30 cubic yards of scrap from 22 of the sumps have proved to be particulary exasperating. These activities required the use of level B protective clothing (fully protected body surfaces with supplied air) and the manual removal of the debris with a pick, shovel and bucket. These activities resulted in a highly labor intensive and time consuming effort.

SITE ACCOMPLISHMENTS

Treated and recycled approximately 600,000 gallons of water for decontamination purposes.

Decontaminated interior of building representing approximately 350,000 square feet (floors and walls).

Excavated approximately 500 tons of extremely dense metal debris from sub-surface "sumps". Covered and secured "sumps" with scrap lumber.

Collected 1,939 samples (wipe, solid, and liquid) for determining extent of contamination and verifying success of the decontamination process.

Treated 150 drums of assorted contents on-site.

Discovered and remediated isolated areas of mercury contamination.

Donated several hundred gallons of assorted reagent grade acids to a local metal plating facility to conserve disposal costs.

Drained, flushed, transported, and disposed seven PCB transformers. Disposed via incineration the 8,700 gallons of PCB oils and flush.

Drained 19 non-PCB transformers and recycled 4,400 gallons of oil.

Transported and disposed 116 tons of PCB-contaminated debris at a secure landfill.

Transported and disposed/recycled 1,000 cubic yards of non-hazardous wood and paper, alleviating fire hazards.

FUTURE PLANS

A few alternatives and their estimated costs are being considered for eliminating the remaining 3,500 cubic yards of PCB-contaminated debris. The 3,500 cubic yards, by the best estimates, represents approximately 5,000 tons with 110 cubic yards representing approximately one-seventh the total weight i.e. 500 tons. The four alternatives being considered are:

1) Transportation and disposal to a secure landfill of all the PCB-contaminated debris.

2) Combination of disposal at a secure landfill and on-site encapsulation of the densest material.

3) Both on-site encapsulation and on-site landfilling.

4) On-site microbiological degradation to render remaining debris non-hazardous and either lanfilling at an industrial landfill or leave on-site. Recently, Detox Industrial Inc. obtained Region 6 approval for biological degradation of PCBs. Upon satisfactory completion of its process demonstration in the Superfund Innovative Technology Evaluation (SITE) it expects to receive national EPA approval. Initial testing concluded that the expense of this process could cost roughly 20% of the cost for transporting and disposing at a secure landfill.

At present there are 25 machines, i.e. very large metal presses, on-site. Initial preparations are underway to co-ordinate the removal of these machines with the assistance of the Office of Regional Counsel (EPA-ORC).

Whatever the ultimate removal decision, a draft of a request to exceed the $2.0 million project ceiling will be submitted for review and approval. Alternative number one represents the most expensive option since the only secure landfill facility presently in compliance, the Chemical Waste Management facility is in Emelle, Alabama. Transportation alone is estimated to cost $1.25 million. Significant savings could be achieved if a closer facility would come into compliance before approval of the action memorandum or a waiver of compliance be granted.

5) 24-hour security to continue.

RECOMMENDATIONS:

Because conditions at this site meet the CERCLA 104(c)(1) criteria, I recommend that you approve an exemption from the twelve month limit to allow for the continuation of removal activities at the Bossert Manufacturing facility, located in Utica, New York.

Your authority to approve this request was established by Lee Thomas's February 26, 1987 Interim Delegation 14-1-A.

Approved /s/ Christopher J. Daggett Date JAN 1 5 1998

Disapproved ______________________ Date ____________

cc: (after approval)
R. Salkie, 2ERR-DD
S. Luftig, 2ERR
G. Zachos, 2ERR-RP
B. Sprague, 2ERR-RP
J. Czapor, 2ERR-SC
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W. Mugdan, 20RC-DRC
P. Gherardi, 20PM-FIN
R. Mueller, PM-214F (EXPRESS MAIL)
T. Fields, WH-548B
M. O'Toole, NYSDEC
V. Pitruzzello, ERRD-PS

bcc: C. Moyik, ERRD-PS
L. Guarneiri (WH-548B)
J. Rosianski, OEP

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 2
290 BROADWAY
NEW YORK, NY 10007-1866

ACTION MEMORANDUM

DATE: SEP 26 1997

SUBJECT: Request for a 12-Month and $2 Million Exemptions, Ceiling Increase and Removal Action Restart at the Bossert Manufacturing Site in Utica, Oneida County, New York

FROM: Jack D. Harmon, On-Scene Coordinator
Removal Action Branch

TO: Jeanne M. Fox
Regional Administrator

THRU: Richard L. Caspe, Director
Emergency and Remedial Response Division

Site ID: S7

I. PURPOSE

The purpose of this Action Memorandum is to request and document approval of the 12-month and $2 million exemptions, a ceiling increase and a removal action restart described herein for the Bossert Manufacturing Site (Site) located on 1002 Oswego Street, Utica, Oneida County, New York, 13501. Previous removal action activities included the following: decontamination of the Site building's interior; consolidation of approximately 3,500 cubic yards of polychlorinated biphenyl (PCB) contaminated debris; and off-site disposal of hazardous wastes. The total project ceiling for conducting the previous response activities was $1,991,259, of which $1,775,609 was used for mitigation contracting. The actions proposed in this memorandum include the following: off-site disposal of approximately 3,500 cubic yards of PCB-contaminated debris; asbestos abatement; decontamination of mechanical and hydraulic presses; partial demolition/shoring of the building; repairing and maintaining the perimeter fence; and providing Site security. The proposed action will require an additional funding of $3,998,741, of which $3,574,391 is from the regional removal allowance. The requested funds will result in a total project ceiling of $5,990,000 and a mitigation contracting ceiling of $5,350,000.

The Site is not on the National Priorities List (NPL). There are no nationally significant or precedent-setting issues associated with the proposed removal action.

II. SITE CONDITIONS AND BACKGROUND

The Comprehensive Environmental Response, Compensation, and Liability Information System ID number for this time-critical removal action is NYD002249563.

A. Site Description

1. Removal site evaluation

On May 15, 1986, the EPA received a request for a response action at the Site pursuant to the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), 42 U.S.C. §§ 9601-9675 from the New York State Department of Environmental Conservation (NYSDEC). The EPA conducted a removal response action at the Site which included the following activities: decontamination of the building's interior; consolidation of approximately 3,500 cubic yards of PCB contaminated debris inside a prepared and secured "vault" area; and off-site disposal of hazardous wastes. The EPA's removal response actions were completed on September 25, 1987. Further remediation of the Site was to be conducted by NYSDEC. NYSDEC entered into an Administrative Order on Consent with the City of Utica (Utica) for remediation activities to be conducted at the Site, however, these activities were never undertaken due to Utica's ensuing financial hardship.

NYSDEC referred the Site again to EPA on March 17, 1997. On April 14, 1997, the Chief of the Removal Section, along with representatives from NYSDEC, visited the Site and an expedited removal assessment was performed. There is evidence of entry onto the Site by the public and vandalism was prevalent, i.e., holes in the fencing, graffiti, doors ripped off their hinges, hundreds of windows broken, etc. The vault area that was once secure has been broken into and obvious vandalism has taken place. Several areas of roofing have collapsed and friable asbestos which is light weight and easily airborne was observed hanging from pipes as well as in piles on the floor. The large volumes of PCB-contaminated debris and asbestos, as well as the continuing deterioration of the building, present a potential threat to human health and the environment.

2. Physical location

The Site is located at 1002 Oswego Street, Oneida County, New York in a densely populated area in the City of Utica. The Site's eastern boundary is a major highway carrying a daily average of 75,000 vehicles. The Site is bounded in other directions by residential and commercial areas. The Washington and Kernan Schools, which have a combined enrollment of approximately 2,000 students, are less than five blocks from the Site (see Appendix A).

3. Site characteristics

The former production facility of the Bossert Manufacturing Corporation consists of a 175,000 square foot building situated on approximately six acres of land. From 1896 to the 1980's, the Site was used for the stamping, weldment and fabrication of sheet metal articles such as brake backing plates and steel floor grates. As a result of past manufacturing practices and salvage operations at the Site subsequent to plant closure in 1985, interior surfaces on floors and walls of the facility, as well as machinery and other appurtenances contained within the building, were contaminated with PCBs. Bossert Manufacturing Corporation filed for bankruptcy (Chapter 11) on May 20, 1983 and on May 17, 1986, amended their filing status to Chapter 7. On October 29, 1986, NYSDEC informed the U.S. Environmental Protection Agency (EPA) of an incident involving two teenagers that were exposed to chemicals while playing on-site. On November 17, 1986, after approval of a Request for Rapid Authorization of CERCLA removal action monies, EPA initiated a removal action that included 24-hour security and installation of night-time lighting. Upon completion of preliminary assessment activities, EPA began cleanup activities on May 5, 1987. EPA's previous response activities resulted in the cleaning of the building's interior surfaces and consolidating PCB-contaminated debris into two rooms inside the building.

The proposed removal action will be the second EPA removal action at the Site.

4. Release or threatened release into the environment of a hazardous substance, pollutant, or contaminant.

Analytical results of samples collected during EPA's previous removal activities and the Phase I site investigation (SI) identified CERCLA hazardous substances present at the Site as listed in 40 CFR 302.4. Currently, an estimated 3,500 cubic yards (or approximately 5,000 tons) of PCB contaminated debris and approximately 5,000 linear feet of asbestos pipe wrap are present within the building. PCBs within the debris are present at concentrations as high as 62,000 parts per million (ppm). In addition, 28 large metal presses with PCB surface contamination up to 1,800 $\mu g/100cm^2$ are present inside the building. Two drums of amalgamated mercury, remaining from the earlier removal action, are stored inside the building. The facility is abandoned and there is no security at the Site. Evidence of repeated episodes of break-ins/vandalism is apparent. Additionally, Utica has recently been experiencing an outbreak of fires which have been attributed to arson. The area in which the PCB contaminated debris is stockpiled had been secure in the past, but repeated incidents of vandalism have compromised this area. The expedited removal assessment observed abundant evidence of public entry and vandalism, i.e., holes in the fencing, graffiti, doors ripped off their hinges, hundreds of windows broken, etc. Several areas of roofing have collapsed and friable asbestos was observed hanging from pipes as well as in piles on the floor. The large volume of PCB-contaminated debris and asbestos, as well as the continuing deterioration of the building, presents a potential threat to human health and the environment. The plethora of broken windows, along with the large areas of roof collapse, has created migration pathways for the friable asbestos present. Further, in the event of a fire at the Site, the responding firefighters, as well as nearby residents, would be threatened with exposure to hazardous substances released from the resulting plume. Air dispersion modeling data had concluded that significant concentrations of asbestos and to a lesser extent PCBs could be expected to impact adjacent residential areas as well as areas downwind if a major fire were to occur.

5. NPL status

The Site is not listed on the NPL. The Site has not undergone a preliminary assessment (PA) to determine whether the conditions at the Site required its inclusion on the NPL.

6. Maps, pictures and other graphic representations

See Appendix A.

B. <u>Other Actions To Date</u>

1. Previous actions

After receiving a request for a CERCLA removal action from NYSDEC in May 15, 1986, representatives from both agencies met on-site to discuss removal site evaluation (Evaluation) activities, as well as EPA's and NYSDEC's roles. Based on site conditions at the time of this visit, it was determined that the Evaluation would be completed in two phases. Under Phase I, routine background information would be collected and limited random sampling would be performed. If the results of sampling indicated that hazardous substances were present at concentrations that would threaten the public health and/or welfare or the environment, then Phase II of the Evaluation would be initiated. Phase II would provide additional sampling, which would define the extent of on- or off-site contamination and determine available technologies for on- and off-site treatment and disposal.

Phase I Evaluation activities occurred during June and July 1986 and included the sampling of 65 drums and sumps. Sampling was conducted by the Environmental Response Team and the Superfund Technical Assistance and Response Team (START) and laboratory services were provided by the Environmental Emergency Response Unit. Verbal results from the sampling were received on August 1, 1986. Results indicated that PCB contamination was widespread. In addition, during sampling it was observed that large volumes of oil had been spilled throughout one area of the facility.

Based upon Phase I Evaluation activities, which not only identified PCB contaminated oils, but also a wide range of other hazardous substances, i.e., solvents, acids, asbestos and miscellaneous raw materials at the Site, on August 5 and 6, 1986, Phase II Evaluation activities were conducted by the EPA and START.

In order to provide an accurate cost estimate for the removal, volume estimates of all waste streams were determined. Since one portion of the facility, i.e., press rooms, was grossly contaminated with oil (both on the floor and on the equipment), wipe samples were collected to identify the extent of decontamination that would be necessary. Phase II Evaluation activities were completed on September 15, 1986.

During Phase I Evaluation activities, PCB contaminated oils were discovered in sumps and drums. PCB concentrations encountered ranged from 10,810 ppms in the sumps to 117 ppms in the drums. Subsequent sampling of interior surfaces of PCB residues revealed contamination throughout the production area of the facility. PCB contamination was found on floors, walls and machinery. The highest PCB concentration on surface materials consisting of 1,180 micrograms of PCB per square meter was found on a piece of machinery about to be removed from the Site by a salvage company. More than 9,000 gallons of PCB waste oil was estimated to be on-site in 35 sumps, 22 transformers and twelve drums.

Other hazardous materials identified included nine open vats containing acid and other metal treating solutions, 140 drums and approximately 5,000 linear feet of asbestos insulation. One of the nine vats contained 450 gallons of sulfuric acid with a pH of 0.2. Approximately 15 carboys of nitric acid and hydrochloric acid were present on-site.

The 140 drums were located both inside and outside the building and contained raw materials, waste oils, solvents and "unknowns."

During Evaluation activities, NYSDEC oversaw the removal of equipment which was auctioned by the bankruptcy trustees. Workers dismantled and shipped machinery to their respective owners. After PCB contamination was discovered, NYSDEC required sampling and decontamination of machinery prior to removal. Prior recipients were notified that their machinery may have been contaminated with PCBs.

In June 1986, NYSDEC's Division of Construction Management hired a contractor to improve security at the Site. Although site security was upgraded and the local police department provided frequent patrols of the area, site access continued to be a problem.

NYSDEC reported several cases of vandalism and there were numerous signs of site access such as spilled drums, cut fencing as well as paper and debris scattered throughout the building. In addition, the Utica Fire Department has responded to four fires since the Site was abandoned.

On October 29, 1986, NYSDEC informed the EPA of an incident involving two teenagers that were exposed to chemicals while on-site. Apparently, several drums of raw materials had been spilled and one carboy of nitric acid had broken. One teenager complained of a rash caused by exposure to the acid. The other teenager complained of having difficulty breathing. Both teenagers were brought to a local hospital, treated and released.

Due to its limited spending authority and the time required to obtain bids as well as select a security service, NYSDEC requested that EPA provide security.

On November 17, 1986, after approval of a Request for Rapid Authorization of CERCLA Removal Action Monies, EPA initiated a removal action that included 24-hour security and the installation of night-time lighting. Upon completion of the evaluation activities previously mentioned, EPA began cleanup activities on May 5, 1987. Previous response activities resulted in the cleaning of the building's interior surfaces and consolidating PCB contaminated debris into two secured rooms inside the building.

Decisions associated with selecting methodologies for decontaminating the building's interior and addressing contaminated debris were consistent with cleanup standards established by EPA's Office of Pesticides and Toxic Substances. These standards required that a very large volume of debris be addressed. The costs for transportation and disposal of the contaminated debris were considerable. Off-site shipments for disposal were discontinued to ensure sufficient funding (within the CERCLA statutory funding limits) to complete decontamination of the building and provide 24-hour security. Approximately 3,500 cubic yards of debris, weighing approximately 5,000 tons, were amassed into two secured rooms upon completing the consolidation of debris throughout the Site.

Previous removal activities at the Site included the following: removing hazardous materials; consolidating and securing PCB contaminated debris within a prepared and secured "vault" area; collecting samples and performing laboratory analyses to determine the extent of PCB contamination; confirming decontamination results as well as characterizing hazardous wastes; and decontaminating the building's interior surfaces. Decontamination procedures utilized high pressure water lasers which used water recycled through an on-site treatment system. The removal of PCB-contaminated flooring and the consolidation of metals, containers, as well as assorted debris strewn about the Site, resulted in the accumulation of 3,500 cubic yards of PCB-contaminated materials. The removal of approximately 100 cubic yards (400-500 tons) of dense metal from 47 sumps was a lengthy and arduous process which required the use of level "B" protective clothing and working in confined space conditions. The total cost for EPA's previous removal activities was $1,991,259, of which $1,775,609 was for mitigation contracting.

Other removal response activities conducted at the Site included the following:

- Elimination of physical hazards at the facility by covering the sumps with plywood, visqueen and liquid nail;
- On-site treatment of 140 drums (8,250 gallons) containing diverse materials, including corrosive liquids and solids, solvents, and raw materials;
- Remediation of elemental mercury in isolated areas of the building;
- Recycling several hundred gallons of laboratory chemicals, including assorted reagent grade acids, by donating such chemicals to a local metal plating facility;
- Draining, rinsing, transportation, and disposal of seven PCB transformers. Disposal of the resulting 3,190 gallons of PCB contaminated oil and rinsate thru off-site incineration;
- Draining 19 non-PCB transformers and recycling 4,675 gallons of "clean" oil;
- Transportation and disposal of 116 tons of PCB-contaminated debris at a Toxic Substances Control Act permitted landfill facility; and
- Transportation and disposal/recycling of 1,000 cubic yards of non-hazardous paper and wood in order to eliminate fire hazards at the Site.

These removal response activities were completed on September 25, 1987. Further remediation of the Site was to be conducted by NYSDEC. NYSDEC has repaired the fence on several occasions because the perimeter fencing was in a deteriorated condition and there had been repeated episodes of break-ins as well as acts of vandalism. NYSDEC entered into an Administrative Order on Consent with Utica for additional remediation activities to be conducted at the Site. However, due to Utica's poor financial situation, work beyond the draft Phase I Site Investigation report and the analysis of remedial alternatives was not performed.

2. Current actions

NYSDEC continues to inspect the Site periodically for break-ins and to perform fence repairs as needed.

C. State and Local Authorities' Roles

1. State and local actions to date

The City of Utica involuntarily acquired ownership of the Site and obtained a grant under NYSDEC's 1986 Environmental Quality Bond Act to remediate the Site. As part of the grant process, Utica was required to enter into a consent agreement (# A6-199-89-4) with NYSDEC. Remediation of the Site by Utica was to have been conducted in three phases. Phase I involved the remediation of non-structural components including 28 metal-stamping presses, oil, and grease lines; PCB-contaminated debris; asbestos-containing material (ACM); three drums containing mercury; and crates situated outside the building. Phase II required sampling of the walls and other structural surfaces to determine the extent of residual contamination. Phase III consisted of the structural decontamination and/or disposal of the building. Due to Utica's poor financial situation, work beyond the draft Phase I Site Investigation report and the analysis of remedial alternatives was not performed.

On March 17, 1997, NYSDEC again referred the Site to the EPA for removal action. The Site is currently listed as an NYSDEC Class 2 Inactive Hazardous Waste Site in NYSDEC Region 6.

2. Potential for continued State/local response

NYSDEC continues to monitor the integrity of the perimeter fencing and the Site for evidence of break-ins. Other than these actions and continuing to provide support for the EPA removal action, no additional response actions are planned by State or local authorities.

III. THREATS TO PUBLIC HEALTH, OR WELFARE, OR THE ENVIRONMENT AND STATUTORY AND REGULATORY AUTHORITIES

The conditions at the Site meet the criteria for a CERCLA removal action as described in 40 CFR 300.415(b)(2) of the National Contingency Plan (NCP). Factors that support conducting a removal action at the Site are described below.

A. Threats to Public Health or Welfare

(i) Actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances, or pollutants, or contaminants;

Hazardous substances present on the Site pose a threat to public health and the environment. Repeated break-ins through the perimeter fence, resulting in unauthorized entries onto the Site, creates the potential for public exposure to PCB contaminated structural and non-structural materials by direct contact. Further, the partial collapse of the building exposes ACM to the elements and increases the potential for the off-site migration of asbestos. In the event of a fire, the resulting plume could potentially affect the surrounding populations. The Washington and Kearnan schools are less than 5 blocks away from the Site.

(iii) Hazardous substances or pollutants or contaminants in drums, barrels, tanks, or other bulk storage containers, that may pose a threat of release;

Approximately 3,500 cubic yards of PCB contaminated debris (≤62,000 ppm); 28 large metal stamping presses, the surfaces of which are grossly contaminated with PCBs (≤ 1,800 $\mu g/100\ cm^2$); two drums of mercury laden waste; and more than 5,000 linear feet of friable asbestos pipe wrap are present on-site. Evidence of numerous break-ins and vandalism has been documented at the Site. Utica is currently experiencing an outbreak of arson-related fires. In the event that a fire occurs in the building, the surrounding population would be exposed to the hazardous substances contained in a resulting plume.

(v) Weather conditions that may cause hazardous substances, or pollutants, or contaminants to migrate or be released;

Heavy snowfall will exacerbate the present deteriorating condition of the building. Further collapse of the building would expose more ACM and possibly jeopardize the secure area in which the PCB-contaminated debris is stockpiled. High winds that frequent the area would contribute to possible off-site migration of asbestos fibers.

(vi) Threat of fire or explosion; and

Since the beginning of the year, Utica has had more than 30 incidents of arson related fires. Most of these fires have consumed uninhabited dwellings; some unoccupied commercial establishments have also been burned. Because the Site is situated in the downtown area and the perimeter fence is frequently compromised, the potential of the Site as a future target for an arsonist(s) is a real possibility. The local fire department has stated that it would be unwilling to enter the building on-site in the event of a fire; the strategy for fighting a fire at the facility would be to contain the blaze and prevent its spread to surrounding properties. The uncontrolled combustion of the hazardous substances present at the Site poses a threat to public health and welfare.

An air dispersion model, EPA's SCREEN3, was performed to estimate worst-case concentrations of asbestos and PCBs that could potentially result from a fire at the Site. For this analysis the emissions from the building fire is assumed to disperse in a manner similar to the emissions that occur from an area source (i.e. the entire building). Area source emissions are assumed to occur at constant rate over the entire surface area being modeled. The recommended model for estimating worst-case concentrations from an area source is EPA's SCREEN3 model. This model predicts the maximum 1-hour average concentrations at downwind receptors for 52 pre-programmed worst-case meteorological conditions.

The weights of PCBs and asbestos present on-site were calculated from known concentrations taken from previous sampling events and from estimated volumes of the debris pile located inside the vault as well as pipe insulation/piles throughout the building. The amount of material available for emission was assumed to be 24% of the PCBs and 10% of the asbestos. Therefore, the calculated weights available for emission were determined to be 17 pounds for PCBs and 17,365 pounds for asbestos.

The maximum 1-hour impact for the PCB scenario, occurring 185 meters downwind of the facility with a wind speed of 1.0 m/s, was predicted to be 1,479 $\mu g/m^3$ (1.5 mg/m^3). The maximum 1-hour impact for the asbestos scenario, occurring 276 meters downwind of the facility with a wind speed of 1.0 m/s, was predicted to be 32,644 $\mu g/m^3$. This impact is equivalent to a concentration of 4,211 asbestos fibers/cm^3. The established Occupational Safety and Health Act Permissable Exposure Limit, based on an 8-hour Time Weighted Average for PCBs is 500 $\mu g/m^3$ and for asbestos is 0.1 fiber/cm^3 (refer to Appendix B for the Modeling Results).

(vii) The availability of other appropriate federal or state response mechanisms to respond to the release.

NYSDEC requested that EPA undertake a removal action at the Site to abate the threats to public health and safety, as well as to the environment posed by PCBs, asbestos and other hazardous substances. Asbestos is not a hazardous waste in New York State and thus cannot be addressed with State funds.

IV. ENDANGERMENT DETERMINATION

Actual or threatened releases of hazardous substances from the Site, if not addressed by implementing the response action as presented in this memorandum, present an imminent and substantial endangerment to public health, or welfare, or the environment.

V. EXEMPTION FROM STATUTORY LIMITS

A. Emergency Exemption

1. There is an immediate risk to public health, or welfare, or the environment;

The Site was secured, in previous removal activities, by stockpiling PCB debris within a prepared "vault," repairing an existing chain link fence and posting hazardous waste warning signs. Surrounding the Site are commercial/industrial establishments, residences and three schools. The building's location in the downtown area attracts trespassers as is evidenced by repeated break-ins and vandalism. Numerous arson related fires have recently occurred in Utica. Due to these factors, the Site could be a prime target for arsonist related activities. In the event of a fire, nearby residents, as well as residents downwind, would be severely impacted by the resulting plume. The presence of friable asbestos escalates the concern for the public health, welfare, and the environment. The local fire department has stated that it would be unwilling to enter the building in the event of a fire and that its strategy for fighting a fire at the facility would be to contain the blaze and prevent its spread to surrounding properties. The uncontrolled combustion of the various materials containing hazardous substances, present on the Site, would pose a significant threat to public health.

2. Continued response actions are immediately required to prevent, limit, or mitigate an emergency; and

Greater than 3,500 cubic yards of PCB contaminated debris as well as mercury and ACM are present at the Site. PCBs are present at concentrations as high as 62,000 ppm. The Site is abandoned and has a history of break-ins and vandalism, even when security was in place. There is abundant evidence of public entry and vandalism, i.e., holes in the fencing, graffiti, doors ripped off their hinges, hundreds of windows broken, etc. Several areas of roofing have collapsed and friable asbestos was observed hanging from pipes as well as in piles on the floor. The formerly secured area in which the PCB-contaminated debris was stockpiled is now accessible to trespassers. Thus, exposure, via direct contact, has been dramatically increased. In the event of a fire, both the responding firefighters and the nearby residents would be threatened with exposure to hazardous substances. The abundances of broken windows, along with the several large areas of roof collapse, have created migration pathways for the friable asbestos present. The large volume of PCB contaminated debris and asbestos, as well as the continuing deterioration of the building, presents an immediate threat to human health and the environment. Continued removal actions are required to prevent an emergency from occurring.

3. Assistance will not otherwise be provided on a timely basis.

No other governmental entity or any Potentially Responsible Party (PRP) has agreed to remove and dispose of the hazardous materials at the Site, in a timely basis, in order to mitigate the threats posed. The Site is not listed on the NPL; further action by EPA through a CERCLA remedial action will not occur.

VI. PROPOSED ACTIONS AND ESTIMATED COSTS

A. Proposed Actions

1. Proposed action description

The removal action proposed in this memorandum is intended to eliminate the threats posed by the hazardous substances contained within the building. This will be accomplished by the following response actions:

- Removal and proper disposal of PCB contaminated debris according to applicable regulatory requirements;
- Removal and proper disposal of asbestos containing materials according to applicable regulatory requirements;

VII. EXPECTED CHANGE IN THE SITUATION SHOULD ACTION BE DELAYED OR NOT TAKEN

As discussed above, Utica has had more than 30 suspected arson related fires during this year. Due to the Site's location in the downtown area and its history of break-ins and vandalism, the Site could be a prime target for arsonist related activities. If no action is taken or the proposed removal action is delayed, the risk to public health and welfare will be increased by the potential targeting of the Site by an arsonist, which would release hazardous substances including asbestos and PCBs into the environment. Additionally, continued collapse of the building may exacerbate the off-site migration of friable asbestos.

VIII. OUTSTANDING POLICY ISSUES

No outstanding policy issues are known to be associated with the Site.

IX. ENFORCEMENT

The ongoing enforcement actions at the Site are discussed in the confidential enforcement addendum attached to this Action Memorandum.

X. RECOMMENDATION

This decision document represents the selected removal response action for the Bossert Manufacturing Site, City of Utica, Oneida County, New York, which is developed in accordance with CERCLA, as amended, and is consistent with the NCP. This decision is based on the administrative record for the Site.

Conditions at the Site meet the NCP Section 300.415(b)(2) criteria for a removal action and the CERCLA Section 104(c) emergency exemption from the 12-month and $2 million limitations, and I recommend your approval of the proposed removal action and a $2 million exemption. The proposed action will require an additional funding of $3,998,741, of which $3,574,391 is from the Regional removal allowance. The requested funds will result in a total project ceiling of $5,990,000 and a mitigation contracting ceiling of $5,350,000.

Please indicate your approval as per current delegation authority, by signing below.

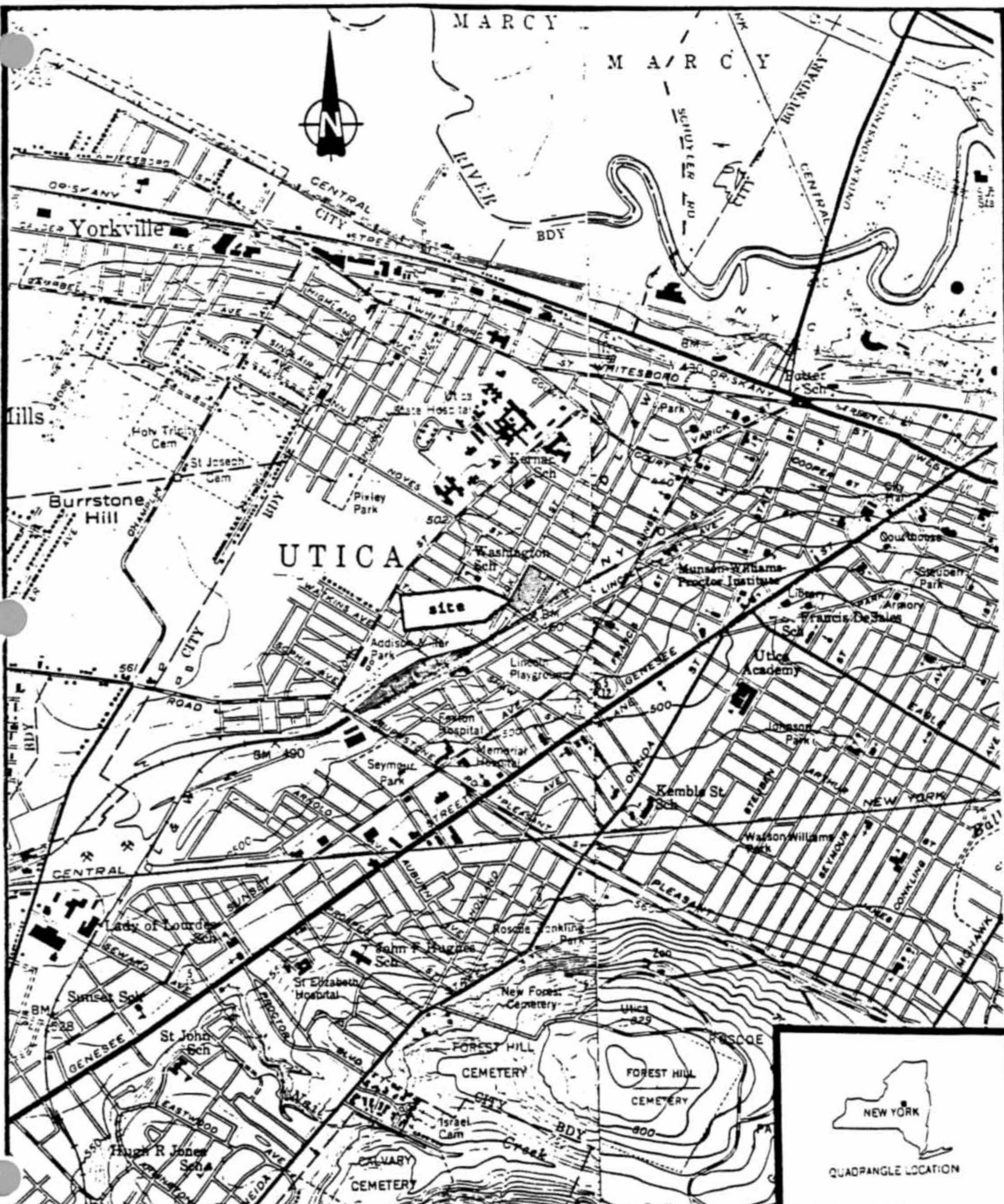
APPROVAL: ______________________ **Date:** 5/26/57
Jeanne M. Fox
Regional Administrator

DISAPPROVAL: ______________________ **Date:** ______________
Jeanne M. Fox
Regional Administrator

cc: (after approval)

J. Fox, RA
W. Muszynski, DRA
R. Caspe, ERRD-D
W. McCabe, ERRD-DD
R. Salkie, ERRD-RAB
J. Rotola, ERRD-RAB
E. Dominach, ERRD-RAB
G. Zachos, OMBUDSMAN
B. Bellow, CD
P. Simon, ORC-NYCSUP
J. Yu, ORC-NYCSUP
R. Gherardi, OPM-FIN
S. Murphy, OPM-FIN
B. Shaw, 5202G
M. O'Toole, NYSDEC
T. Vickerson, NYSDEC
A. Raddant, OEPC
G. Wheaton, NOAA
O. Douglas, START

APPENDIX A



WESTON SPILL PREVENTION & EMERGENCY RESPONSE DIVISION	EPA PM	ROTOLA	FIGURE 1
In association with ICF, Inc., Jacobs Engineering, Inc., & Tetra Tech, Inc.	TAT PM	MARESCA	SITE MAP BOSSERT MFG.

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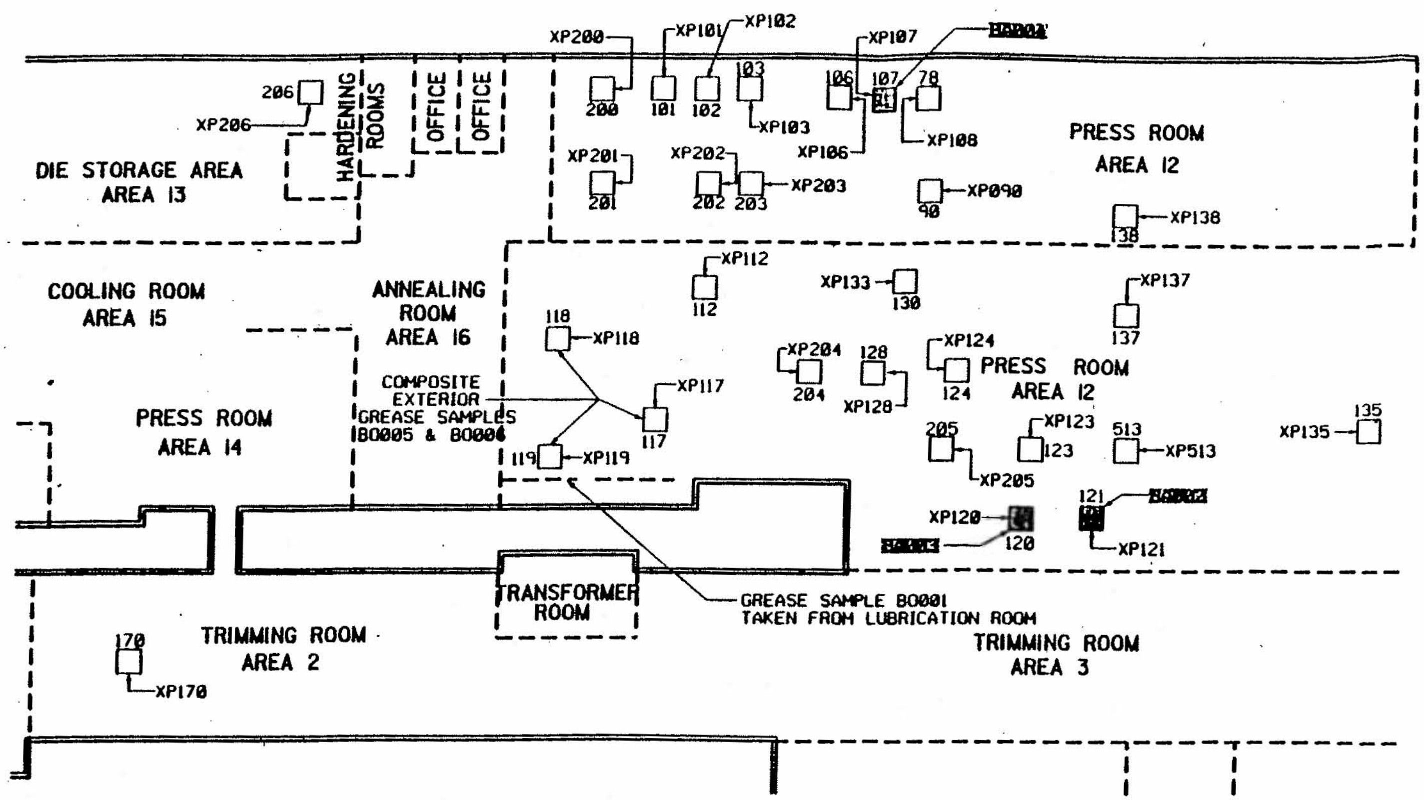
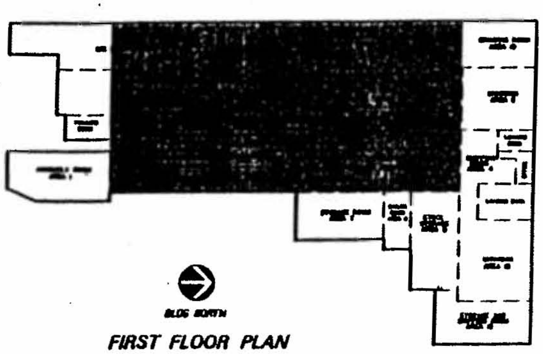
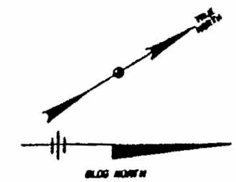
FIGURE 2





NOTES:

1. SAMPLES WERE COLLECTED FROM DECEMBER 6 THROUGH DECEMBER 16, 1993.
2. THE FIELD SAMPLING CREW WAS COMPRISED OF PATRICIA ROSATO, KYLE THOMAS AND JEFF BULLIS.
3. THE FOLLOWING ANALYSES WERE PERFORMED:
   - WIPE SAMPLING FOR PCB'S ON PRESSES, METAL DEBRIS, DRUMS AND CRATES
   - BULK SAMPLING PCB'S ON DEBRIS AND FLOOR SWEEPINGS, OIL RESERVOIRS, SUSPECTED ASBESTOS CONTAINING MATERIAL AND CRATES.
   - BULK SAMPLING TCLP ON DEBRIS AND FLOOR SWEEPINGS, GREASE LINES, OIL RESERVOIRS AND DRUM CONTENTS.
4. H2M LABORATORY OF MELVILLE, NY PERFORMED ANALYSIS OF ALL SAMPLES.
5. DATA VALIDATION BY DATA VALIDATION SERVICES, NORTH CREEK, NY.



LEGEND

BA000	BULK OIL SAMPLE POINT
XP000	MACHINE WIPE SAMPLE PO
B0000	BULK GREASE SAMPLE PO
☐ 100	MACHINE W/I.D. NUMBER

BOSSERT SITE
(SITE CODE: 6-33-029)

MACHINE SAMPLING POINTS

NOT TO SCALE

0450.046.01F

Stetson-Harza
A HARZA COMPANY

APPENDIX B

Roy F. Weston, Inc.
GSA Raritan Depot
Building 209 Annex (Bay F)
2890 Woodbridge Avenue
Edison, New Jersey 08837-3679
908-321-4200 • Fax 908-494-4021

DATE: 28 August 1997

TO: Rod Turpin, ERTC Work Assignment Manager

THROUGH: Steven Schuetz, REAC Air Group Team Leader

FROM: Keith Ocheski, REAC Modeling Team Member

SUBJECT: Bossert Site Dispersion Modeling Results

As requested, a dispersion modeling analysis was performed to estimate worst-case ambient concentrations of asbestos and PCBs that could result from a fire at the former Bossert Manufacturing Facility. The site consists of a vacant 186,878 ft^2 former production facility situated on a parcel of land of roughly six acres. The facility contains a stockpile of various PCB contaminated materials that resulted from an initial emergency cleanup by the U.S. EPA in 1987. In addition to the PCB contamination there is a significant amount of asbestos contained in the insulation surrounding portions of the buildings piping. This modeling analysis provides an estimate of the potential worst-case off-site air concentrations of PCB and asbestos that may occur if the facility caught fire.

In order to perform the dispersion modeling, information regarding the following needed to be determined and/or calculated:

1. The amount (mass) of PCB and asbestos contained within the facility that could potentially be released in a fire.

2. Dimensions of the building and areas that contain PCB contaminated debris.

3. The location of the nearest residence/business.

The majority of the information needed was obtained from the O'Brien &Gere Engineers *Phase I Draft Site Investigation Report (July, 1994)* for the Bossert Site. Additional information was gathered, via a site visit, on 30 July 1997 by Howard Schmidt (REAC), Rod Turpin (ERTC) and Jack Harmon (OSC).

PCB Emissions Calculation

In the O'Brien and Gere draft site investigation report it was estimated that the facility contains approximately 3000 cubic yards (81,000 ft^3) of PCB contaminated material. This material consists of metal debris, wooden debris, concrete, cardboard, floor sweepings and empty drums. In the event of a fire it was assumed that only the wood debris, cardboard and floor sweepings would have the potential to burn and release PCB's to the atmosphere. Based on the 30 July 1997 site visit in conjunction with an estimate by O'Brien and Gere it was assumed that 25% of the total volume of debris was either wood (10%), cardboard (10%) and floor sweepings (5%). The mass of each type of debris contained in the facility was calculated by multiplying the volume of the material by its corresponding density. The following table lists the volume, density and mass of each type of debris that was used in the modeling analysis:

Debris Type	Volume (ft^3)	Density (lbs/ft^3)	Mass (lbs)	Notes
Wood	8,100	42.0	340,200	Density based on EPA AP-42 listed density forred oak wood.
Cardboard	8,100	5.0	40,500	Density is estimated (no published density information available).
Floor Sweepings	4,050	62.4	252,720	Density based on EPA default value for dry soil.

The next step was to calculate the mass of PCBs contained in each type of material. As part of the Phase I site investigation O'Brien and Gere performed field sampling of these debris types in order to characterize the extent of PCB contamination. For each debris type the average sampled PCB concentration was used in order to calculate the mass of PCBs contained within each debris type. The final step was to estimate the percentage of PCBs that would be emitted from each debris type in the case of a fire. For wooden and cardboard waste it was assumed that 100% of the PCBs would be emitted since it would be likely that these types of debris would burn completely. For the floor sweepings it was assumed that 10% of the PCB's would be emitted since only PCBs contained in the exposed surface portion of the floor sweepings would have the potential to be volatilized in a fire situation. Based on these assumptions it was calculated that 16.6 lbs of PCBs could potentially be emitted from a fire. The following table summarizes these PCB emission calculations:

Debris Type	Average Monitored PCB Concentration (ppm)	Mass of PCB's in Material (lbs)	% of PCBs Available for Emission	Mass of PCBs Available for Emission (lbs)
Wood	30.9	10.5	100%	10.5
Cardboard	8.0	0.3	100%	0.3
Floor Sweepings	227.0	57.4	10%	5.8
		Total Mass of PCBs Available for Emission		16.6

Asbestos Emissions Calculation

Chrysotile asbestos is contained in the pipe insulation that surrounds the majority of the facilities pipework. It was estimated that the facility contains approximately 2500 feet of asbestos insulated piping that has an average diameter of four inches with a surrounding one inch thick insulation wrap. The insulation was assumed to be 40% Chrysotile asbestos by volume. Based on these assumptions it was calculated that the facility contains 109.1 ft^3 of Chrysotile asbestos, this volume of asbestos corresponds to a mass of 17,365.3 lbs when multiplied by the density of Chrysotile asbestos (2.55 g/cc).

In a building fire the asbestos fibers could potentially be emitted to the atmosphere via thermal updrafts carrying damaged portions of the insulation out of the building. For this modeling analysis it was assumed that the entire roof would collapse/burn and that 10% of the total asbestos mass (1736.5 lbs) would be released to the atmosphere. Table 1 summarizes the assumptions used in these calculations.

Modeling Inputs/Assumptions

For this analysis the emissions from the building fire are assumed to disperse similar to the emissions that occur from an area source. Area source emissions are assumed to occur at constant rate over the entire surface of the area being modeled. The recommended model for estimating worst-case concentrations from an area source is EPA's SCREEN3 model. This model predicts the maximum 1-hour average concentrations at downwind receptors for 52 pre-programmed worst-case meteorological conditions.

For the PCB modeling the emissions were assumed to occur from an area source equal to the width and length of the PCB contaminated debris storage area. The asbestos emissions were assumed to occur from a square area source with the equivalent area to the Bossert production facility building (186,878 ft^2). Both scenarios used the roof height of 17 feet as the area source height. For both the PCB and asbestos modeling the emissions were assumed to occur over a six hour period.

Since the building is located next to the property fenceline, impacts were predicted for receptors from 25 meters to 5000 meters downwind. The area surrounding the facility is relatively flat, therefore, the receptors were assumed to be at the same elevation as the site (i.e., flat terrain). The following table summarizes the source input parameters used in the modeling analysis:

SCREEN3 MODELING INPUTS

Parameter	Units	Modeling Scenario	
		PCB's	**Asbestos**
Length	meters	91.4	131.8
Width	meters	9.1	131.8
Height	meters	5.18	5.18
Emission Rate	$g/m^2/sec$	0.00042	0.0021

Modeling Results

The maximum 1-hour impact for the PCB scenario was predicted to be 1479 ug/m^3 (1.5 mg/m^3)and occurs 185 meters downwind of the facility under F stability with a wind speed of 1.0 m/s. Figure 1 displays the contours of maximum 1-hour PCB impacts within five kilometers of the facility.

The maximum 1-hour impact for the asbestos scenario was predicted to be 32,644 ug/m^3 and occurs 276 meters downwind of the facility under F stability with a wind speed of 1.0 m/s. This impact is equivalent to a concentration of 4,211 asbestos fibers/cc (based on 129,000 fibers/ug). Figure 2 displays the contours of maximum 1-hour asbestos concentration (fibers/cc) within five kilometers of the facility.

The output files from the SCREEN3 modeling runs for PCB and asbestos are included as Attachments A and B, respectively.

TABLE 1
BOSSERT SITE MODELING ANALYSIS

Asbestos Emissions Calculations

Diameter (in)	Diameter (ft)	Area (ft^2)	Length (ft)	Volume(ft^3)
4 (Pipe)	0.33	0.087	2500	218.2
6 (Insulation)	0.50	0.196	2500	490.9

Volume of Asbestos Pipe Insulation:	272.7 ft^3
% Asbestos in Insulation:	40 %
Volume of Asbestos:	109.1 ft^3
	3,088,906 cc
Density of Asbestos:	2.550 g/cc (based on specific gravity)
Mass of Asbestos:	7,876,709.1 g
	17,365.3 lbs
% of Asbestos Available for Emission:	10.0 %
Mass of Asbestos Available for Emission:	787,670.9 g
	1,736.5 lbs

FIGURE 1

BOSSERT SITE - SCREEN3 MODELING RESULTS

Maximum 1-Hour PCB Concentrations (ug/m3)

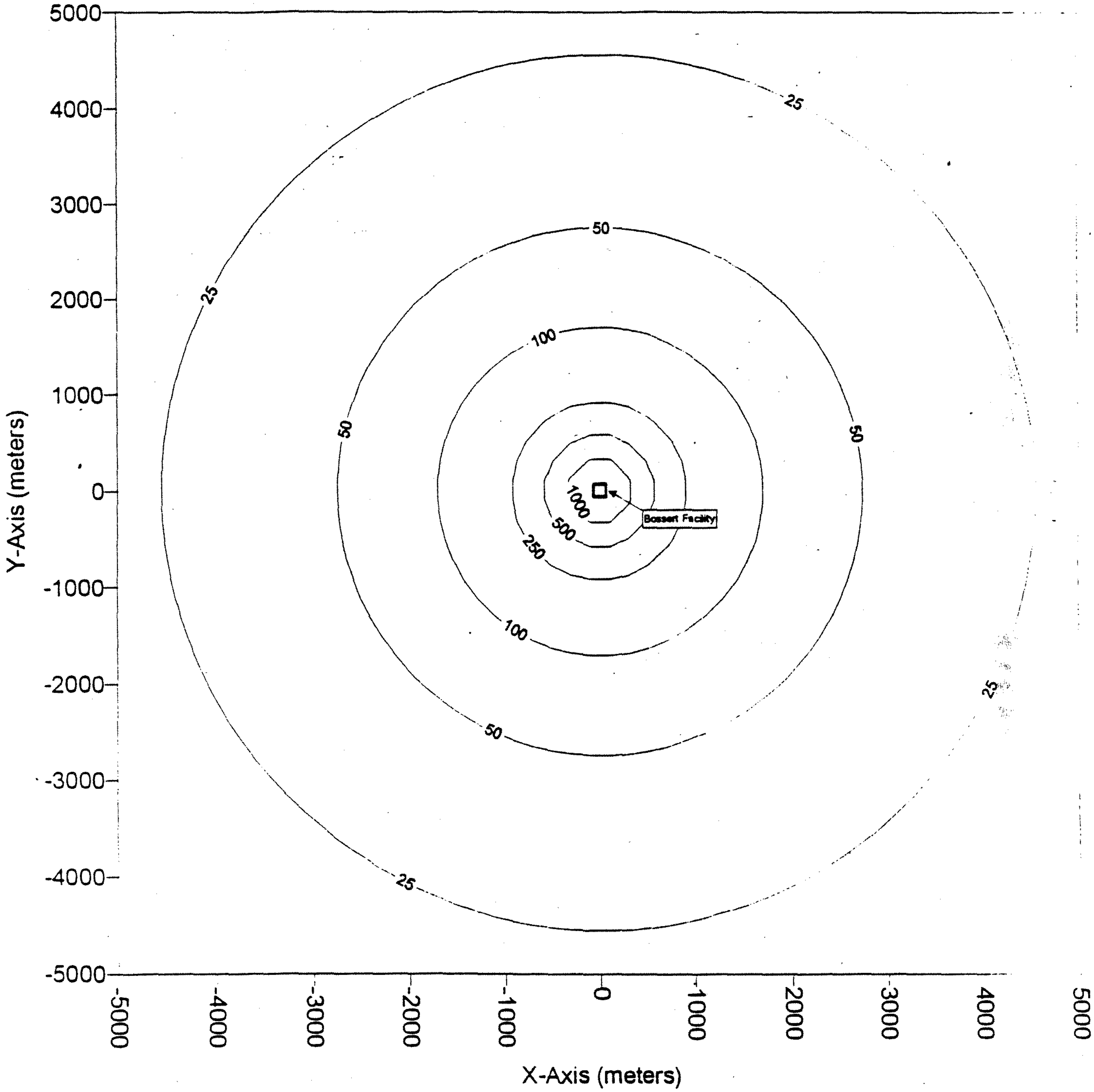
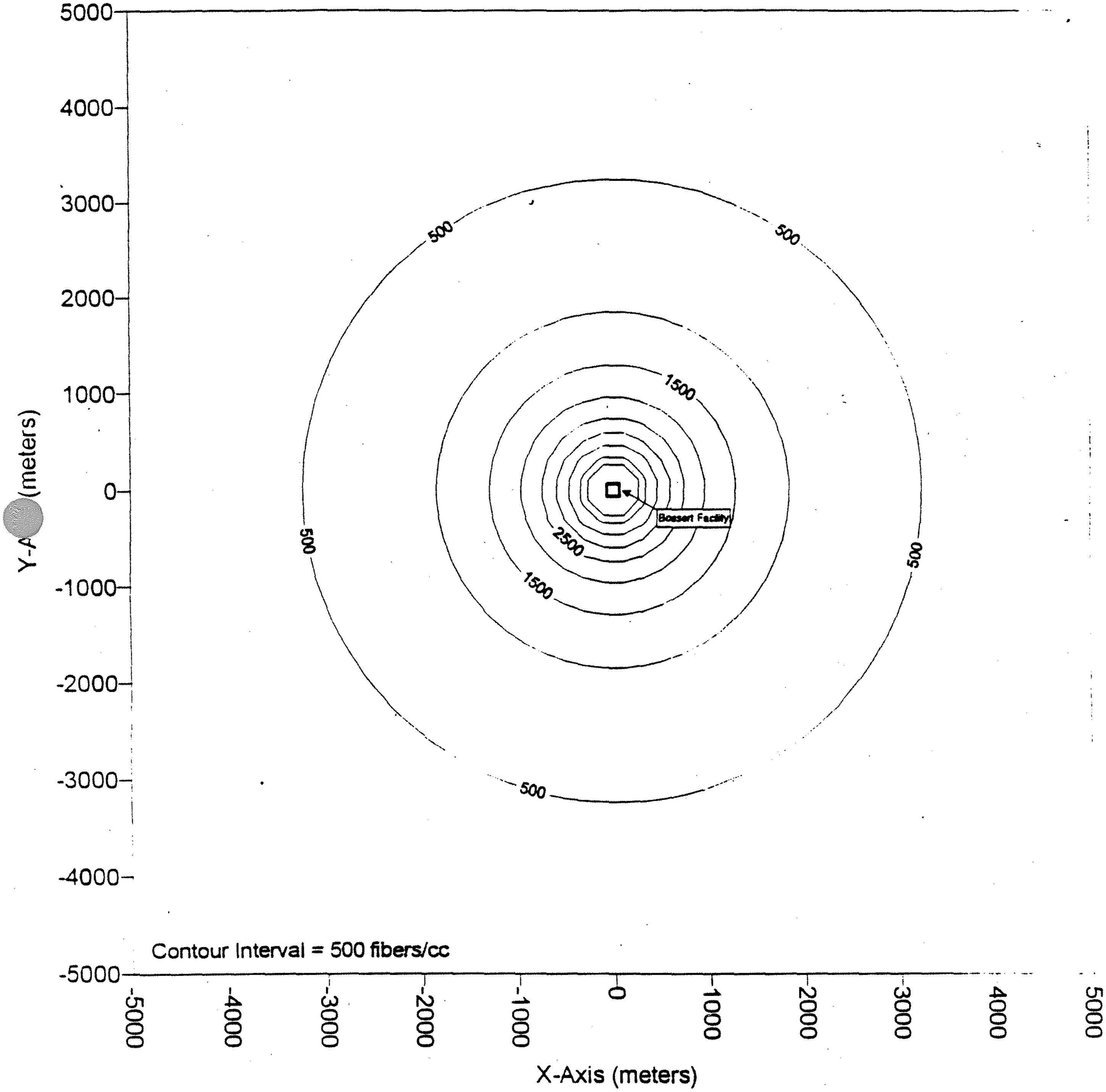


FIGURE 2

BOSSERT SITE - SCREEN3 MODELING RESULTS

Maximum 1-Hour Asbestos Concentrations (fibers/cc)



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Attachment A

08/25/97
13:43:15

```
 ***  SCREEN3 MODEL RUN  ***
 *** VERSION DATED 96043 ***

Bossert - PCB 10% - Rooftop Release - 6-Hour Duration

SIMPLE TERRAIN INPUTS:
   SOURCE TYPE                 =        AREA
   EMISSION RATE (G/(S-M**2))  =     .416000E-03
   SOURCE HEIGHT (M)           =      5.1800
   LENGTH OF LARGER SIDE (M)   =     91.4000
   LENGTH OF SMALLER SIDE (M)  =      9.2000
   RECEPTOR HEIGHT (M)         =       .0000
   URBAN/RURAL OPTION          =       RURAL
THE REGULATORY (DEFAULT) MIXING HEIGHT OPTION WAS SELECTED.
THE REGULATORY (DEFAULT) ANEMOMETER HEIGHT OF 10.0 METERS WAS ENTERED.

   MODEL ESTIMATES DIRECTION TO MAX CONCENTRATION


BUOY. FLUX =     .000 M**4/S**3;  MOM. FLUX =     .000 M**4/S**2.

*** FULL METEOROLOGY ***

**********************************
*** SCREEN AUTOMATED DISTANCES ***
**********************************

*** TERRAIN HEIGHT OF    0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***
```

DIST (M)	CONC (UG/M**3)	STAB	U10M (M/S)	USTK (M/S)	MIX HT (M)	PLUME HT (M)	MAX DIR (DEG)
25.	744.6	3	1.0	1.0	320.0	5.18	0.
100.	1403.	5	1.0	1.0	10000.0	5.18	0.
200.	1464.	6	1.0	1.0	10000.0	5.18	0.
300.	1125.	6	1.0	1.0	10000.0	5.18	0.
400.	813.7	6	1.0	1.0	10000.0	5.18	0.
500.	605.4	6	1.0	1.0	10000.0	5.18	0.
600.	466.8	6	1.0	1.0	10000.0	5.18	0.
700.	371.5	6	1.0	1.0	10000.0	5.18	0.
800.	305.3	6	1.0	1.0	10000.0	5.18	0.
900.	256.5	6	1.0	1.0	10000.0	5.18	0.
1000.	219.3	6	1.0	1.0	10000.0	5.18	0.
1100.	190.7	6	1.0	1.0	10000.0	5.18	0.
1200.	167.8	6	1.0	1.0	10000.0	5.18	0.
1300.	149.2	6	1.0	1.0	10000.0	5.18	0.
1400.	133.7	6	1.0	1.0	10000.0	5.18	0.
1500.	120.6	6	1.0	1.0	10000.0	5.18	0.
1600.	109.6	6	1.0	1.0	10000.0	5.18	0.
1700.	100.1	6	1.0	1.0	10000.0	5.18	0.
1800.	91.85	6	1.0	1.0	10000.0	5.18	0.
1900.	84.69	6	1.0	1.0	10000.0	5.18	0.
2000.	78.44	6	1.0	1.0	10000.0	5.18	0.
2100.	73.15	6	1.0	1.0	10000.0	5.18	0.
2200.	68.46	6	1.0	1.0	10000.0	5.18	0.
2300.	64.26	6	1.0	1.0	10000.0	5.18	0.
2400.	60.48	6	1.0	1.0	10000.0	5.18	0.
2500.	57.06	6	1.0	1.0	10000.0	5.18	0.
2600.	53.96	6	1.0	1.0	10000.0	5.18	0.
2700.	51.13	6	1.0	1.0	10000.0	5.18	0.
2800.	48.54	6	1.0	1.0	10000.0	5.18	0.
2900.	46.17	6	1.0	1.0	10000.0	5.18	0.
3000.	44.00	6	1.0	1.0	10000.0	5.18	0.

```
  3500.   35.71        6      1.0     1.0 10000.0     5.18       0.
  4000.   29.81        6      1.0     1.0 10000.0     5.18       0.
  4500.   25.42        6      1.0     1.0 10000.0     5.18       0.
  5000.   22.04        6      1.0     1.0 10000.0     5.18       0.

MAXIMUM 1-HR CONCENTRATION AT OR BEYOND    25. M:
   185.   1478.        6      1.0     1.0 10000.0     5.18       0.

     ***************************************
     *** SUMMARY OF SCREEN MODEL RESULTS ***
     ***************************************

 CALCULATION         MAX CONC    DIST TO   TERRAIN
  PROCEDURE         (UG/M**3)    MAX (M)    HT (M)
--------------     -----------   -------   -------
SIMPLE TERRAIN       1478.         185.        0.

***************************************************
** REMEMBER TO INCLUDE BACKGROUND CONCENTRATIONS **
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Attachment B

08/25/97
13:40:08

*** SCREEN3 MODEL RUN ***
*** VERSION DATED 96043 ***

Bossert - Asbestos 10% - Rooftop Release - 6 Hour Duration

SIMPLE TERRAIN INPUTS:

SOURCE TYPE	=	AREA
EMISSION RATE (G/(S-M**2))	=	.210000E-02
SOURCE HEIGHT (M)	=	5.1800
LENGTH OF LARGER SIDE (M)	=	131.8000
LENGTH OF SMALLER SIDE (M)	=	131.8000
RECEPTOR HEIGHT (M)	=	.0000
URBAN/RURAL OPTION	=	RURAL

THE REGULATORY (DEFAULT) MIXING HEIGHT OPTION WAS SELECTED.
THE REGULATORY (DEFAULT) ANEMOMETER HEIGHT OF 10.0 METERS WAS ENTERED.

MODEL ESTIMATES DIRECTION TO MAX CONCENTRATION

BUOY. FLUX = .000 M**4/S**3; MOM. FLUX = .000 M**4/S**2.

*** FULL METEOROLOGY ***

****
*** SCREEN AUTOMATED DISTANCES ***
****

*** TERRAIN HEIGHT OF 0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***

DIST (M)	CONC (UG/M**3)	STAB	U10M (M/S)	USTK (M/S)	MIX HT (M)	PLUME HT (M)	MAX DIR (DEG)
25.	.1400E+05	3	1.0	1.0	320.0	5.18	45.
100.	.2408E+05	4	1.0	1.0	320.0	5.18	45.
200.	.3127E+05	5	1.0	1.0	10000.0	5.18	45.
300.	.3245E+05	6	1.0	1.0	10000.0	5.18	45.
400.	.2962E+05	6	1.0	1.0	10000.0	5.18	45.
500.	.2611E+05	6	1.0	1.0	10000.0	5.18	45.
600.	.2295E+05	6	1.0	1.0	10000.0	5.18	45.
700.	.2030E+05	6	1.0	1.0	10000.0	5.18	45.
800.	.1818E+05	6	1.0	1.0	10000.0	5.18	45.
900.	.1640E+05	6	1.0	1.0	10000.0	5.18	45.
1000.	.1488E+05	6	1.0	1.0	10000.0	5.18	45.
1100.	.1360E+05	6	1.0	1.0	10000.0	5.18	45.
1200.	.1248E+05	6	1.0	1.0	10000.0	5.18	45.
1300.	.1150E+05	6	1.0	1.0	10000.0	5.18	44.
1400.	.1062E+05	6	1.0	1.0	10000.0	5.18	45.
1500.	9842.	6	1.0	1.0	10000.0	5.18	44.
1600.	9146.	6	1.0	1.0	10000.0	5.18	45.
1700.	8521.	6	1.0	1.0	10000.0	5.18	45.
1800.	7961.	6	1.0	1.0	10000.0	5.18	45.
1900.	7452.	6	1.0	1.0	10000.0	5.18	45.
2000.	6998.	6	1.0	1.0	10000.0	5.18	45.
2100.	6602.	6	1.0	1.0	10000.0	5.18	44.
2200.	6245.	6	1.0	1.0	10000.0	5.18	44.
2300.	5919.	6	1.0	1.0	10000.0	5.18	45.
2400.	5618.	6	1.0	1.0	10000.0	5.18	43.
2500.	5341.	6	1.0	1.0	10000.0	5.18	42.
2600.	5086.	6	1.0	1.0	10000.0	5.18	43.
2700.	4850.	6	1.0	1.0	10000.0	5.18	44.
2800.	4631.	6	1.0	1.0	10000.0	5.18	45.
2900.	4428.	6	1.0	1.0	10000.0	5.18	45.
3000.	4241.	6	1.0	1.0	10000.0	5.18	43.

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  3500.   3507.        6     1.0     1.0 10000.0    5.18     38.
  4000.   2965.        6     1.0     1.0 10000.0    5.18     45.
  4500.   2552.        6     1.0     1.0 10000.0    5.18     37.
  5000.   2227.        6     1.0     1.0 10000.0    5.18     45.

MAXIMUM 1-HR CONCENTRATION AT OR BEYOND    25. M:
   276.   .3264E+05    6     1.0     1.0 10000.0    5.18     45.

     ***************************************
     *** SUMMARY OF SCREEN MODEL RESULTS ***
     ***************************************

 CALCULATION         MAX CONC     DIST TO   TERRAIN
  PROCEDURE         (UG/M**3)     MAX (M)    HT (M)
--------------     -----------    -------   -------
SIMPLE TERRAIN       .3264E+05      276.        0.

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** REMEMBER TO INCLUDE BACKGROUND CONCENTRATIONS **
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EPA REGIONAL GUIDANCE DOCUMENTS

The following documents are available for public review at the EPA Region II Field Office, 2890 Woodbridge Avenue, Edison, New Jersey 08837 during regular business hours.

- Glossary of EPA Acronyms.
- Superfund Removal Procedures--Revision #3. OSWER Directive 9360.0-03B, February 1988.
- Hazardous Waste Operations and Emergency Response.
  Notice of Proposed Rule making and Public Hearings.
  29 CFR Part 1910, Monday, August 10, 1987.
- Guidance on Implementation of Revised Statutory Limits on Removal Action.
  OSWER Directive 9260.0-12, May 25, 1988.
- Redelegation of Authority under CERCLA and SARA.
  OSWER Directive 9012.10, May 25, 1988.
- Removal Cost Management Manual.
  OSWER Directive 9360.0-02B, April, 1988.
- Field Standard Operating Procedures (FSOP).
  #4 Site Entry.
  #6 Work Zones.
  #8 Air Surveillance.
  #9 Site Safety Plan.
- Standard Operating Safety Guides -- U.S. EPA Office of Emergency and Remedial Response, July 5, 1988.
- CERCLA Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (Superfund).
- SARA: Superfund Amendments and Reauthorization Act of 1986.
- NCP: National Oil and Hazardous Substances Pollution Contingency Plan. - Publication No. 9200.2-14.
- Guidance on Implementation of the "Contribute to Efficient Remedial Performance" Provision - Publication No. 9360.0-13.

Additional Guidance Documents are listed below and are available for review at the EPA Region II Removal Records Center.

- The Role of Expedited Response Actions (EPA) Under SARA - Publication No. 9360.0-15.
- Guidance on Non-NPL Removal Actions Involving Nationally Significant or Precedent Setting Issues - Publication No. 9360.0-19.
- ARARS During Removal Actions - Publication No. 9360.3-02.
- Consideration of ARARS During Removal Actions -Publication No. 9360.3-02FS.
- Public Participation for OSCs - Community Relations and the Administrative Record - Publication No.9360.3-05.
- Superfund Removal Procedures - Removal Enforcement Guidance for On-Scene Coordinators - Publication No. 9360.3-06.
- QA/QC for Removal Actions - Publication No. 9360.4-01.
- Compendium for ERT Air Sampling Procedures - Publication No. 9360.4-05.